BIOCELL
2009, 33(1): A53-A98

ISSN 0327 - 9545
PRINTED IN ARGENTINA

Abstracts from the

XXVI Annual Scientific Meeting of Cuyo Biology Society

In Memorian **Dr. Ricardo DEIS**

December 5-7, 2008
Center of Conventions and Expositions
Mendoza-Argentina

Abstracts were revised by the Scientific Commitee

OBITUARY

On April 26, 2008, Dr. Ricardo P. Deis, died in Mendoza, where he had been born on May 5, 1931. He had attained the highest (Superior) category as a CONICET researcher.

He graduated as surgeon in 1959 in the Nacional University of Córdoba and began his research career under the direction of Dr. Samuel Taleisnik in the Instituto Mercedes y Martín Ferreyra (INIMEC) in Córdoba, with one of the first fellowships given by CONICET. In 1962 he moved to Edinburgh, with an overseas fellowship from CONICET, where, working with Dr. Mary Pickford, he began his studies in the hormonal regulation of pregnancy and lactation that were the basis of his PhD dissertation, which he passed in Edinburgh University in 1968 and of his subsequent career in research.

Upon return to Argentina in 1962, he returned to the Ferreyra Institute, where he rapidly formed a research group working in the physiology of female reproduction. In that same year he was designated Career Researcher in CONICET, attaining the highest category on 1993.

On 1971 he won the Joven Sobresaliente award given by the Cámara Junior de la Provincia de Buenos Aires. He was particularly proud of this award.

In 1975 he moved to the Laboratoire de Physiologie de la Lactatión- INRA- Jouy-en-Josas, France, where he obtained a Maitre de Recherce designation from the Delegatión General de la Recherche Scientifique et Technique.

After returning to Argentina in 1976 and by proposal of CONICET, he created the Laboratorio de Reproducción y Lactancia (LARLAC, today renamed the Instituto de Medicina y Biología Experimental de Cuyo, IMBECU), an institute of CONICET within the Regional Center of Mendoza (CRICYT), which he directed from 1976 until 2000. The institute began its work in facilities graciously lent by the School of Medicine, University of Cuyo, moved to one of the wings of the first CRICYT building in 1980, and in 1995 to a bigger building in the CRICYT campus.

Dr. Deis supervised more than 30 graduate fellows, 8 young CONICET researchers and many fellows and researchers from other organizations, and directed 12 Doctoral thesis.

He authored 88 papers published in peer reviewed international journals, among them two highly cited papers in Nature, and numerous chapters in scientific books. He pioneered the study of the hormonal regulation of lactogenesis, of the regulation of prolactin secretion at the end of pregnancy and during lactation and of its actions on the mammary gland. He demonstrated the role of progesterone fall as the main trigger of prolactin release, lactegenesis and maternal behavior induction at the end of pregnancy and the participation of different neurotransmitter systems in this regulation. He also made significant advances in the study of the mechanisms of induction and hormonal regulation of maternal and sexual behaviors.

During his career he also was president of the Asociación Latinoamericana en Reproducción Humana. ALIRH (1977-1981), Counselor for the WHO Programs for Lactation in 1989 and Director for Argentina, Chile, Uruguay and Paraguay of the Programa Latinoamericano de Capacitación e Investigación en Reproducción Humana (PLACIRH), between 1993 and 1997. He also participated in numerous peer reviewing committees of CONICET and other regional, national and international organizations.

From 1992 to 1997 he served as Director of the Centro Regional de Investigaciones Científicas y Tecnológicas, Mendoza (CRICYT).

In addition to his tireless dedication to science, Dr. Deis also was an enthusiastic promoter of breastfeeding who did not pass any opportunity to lecture on lactation and its benefits for the newborn. He was a fervent defender of the right of the newborn to be breastfed, and this led him to give information, training and treatment to adoptive mothers or to mothers with lactation deficit to make them breast feed successfully their babies. In this activity he got a high rate of success and a deserved recognition.

Dr. Deis was a passionate and tireless scientist, that could be found at any hour and on any day in the lab. But he also had a wide culture, and was a knowledgeable lover of music, painting and other artistic manifestations. He was also an avid reader, in particular of latinomerican literature.

It is important to note, that although he was offered important positions abroad, in the University of Edimburgh and in the INRA, France, he always chose to return and continue his work in his country. In this, he was a faithful follower of the ideas of the Argentine Nobelist, Dr. Bernardo Houssay, whom he considered his mentor and an example to follow.

His death has produced a vacuum in the regional scientific community, but his example will remain as a stimulus among his collaborators and disciples.

Finally, I wish to remark, that his main legacy, LARLAC, the present IMBECU, that began with 5 researchers and 2 technicians working in reproductive biology, has become today a multidisciplinary institute, composed of 20 career scientists, 13 doctoral and postdoctoral fellows, 14 technicians and 12 non-CONICET members. The institute that he created and inspired has matured and now has a strong presence in the region and in our country.

Organizing Committee

President *Dr. Walter Manucha*

Vicepresident for Cuyo Biology Society *Dra. Marta Susana Ojeda*

Vicepresident for Dirección de Investigación, Ciencia y Técnica del Ministerio de Salud Gobierno de Mendoza: *Tec. Silvia Sottile*

Members

Dr. Edgardo Orozimbo Álvarez Toro
Dra. Alicia Beatriz Penissi
Dra. María Laura Mariani
Dra. Graciela Nora Arenas
Dr. Miguel Fornés
Dra. Alejandra Olivia Margarita María
Dra. Lucia Fuente
Dra. María Verónica Pérez Chaca
Dra. María Eugenia Ciminari
Dra. Ana María Rastrilla

Scientific Committee

President *Dra. Graciela Nora Arenas*

Members for Mendoza

Dra. Teresa Damiani
Dr. Carlos Gamarra
Dr. Ricardo Masuelli
Dra. Adriana Telechea
Dr. Fernando Saraví
Dr. Walter Manucha

Members for San Luis

Dra. Ana María Rastrilla
Dra. Lucía Fuentes
Dra. Alejandra María
Ing. Luis Del Vitto
Dr. Blas Micalizzi
Dra. Marta Susana Ojeda

Governamental Sponsors

Secretaría de Post Grado y Relaciones Institucionales, Facultad de Ciencias Médicas, Universidad Nacional de Cuyo, Mendoza.

Dirección de Investigación, Ciencia y Técnica, Ministerio de Salud Gobierno de Mendoza.

Secretaría de Ciencia y Técnica Universidad Nacional de Cuyo

Instituto de Biología y Medicina Experimental de Cuyo (IMBECU - CONICET)

Instituto de Histología y Embriología (IHEM - CONICET)

Sociedad Argentina de Hipertensión Arterial (SAHA)

Consejo Argentina de Hipertensión Arterial

Private Sponsors

Olympus Latin America, Inc.
Gador S. A.
Industria y Medicina
Biofarma S. A.
Bohr Bioingeniería
Librería Salonia

Bioanalítica Argentina
Biodynamics SRL
Editorial Médica Panamericana
Tecnolab S.A.
Invitrogen Argentina

1.

EFFECT OF HEATING ON VEGETATIVE CELLS AND SPORES OF ENTEROTOXIGENIC *Clostridium perfringens* ISOLATES CARRING CHROMOSOMAL *cpe* GENES

Abbona CC, Stagnitta PV, Stefanini AM.
Area Microbiologia. Univ Nac de San Luis. San Luis. Argentina. E-mail: pvstag@unsl.edu.ar

Clostridium perfringens enterotoxin (CPE) is an important virulence factor. Recent studies have indicated that *C. perfringens* isolated associated with food poisoning carry a chromosomal *cpe* gene. The aim of this work was to evaluate the heat resistance of two enterotoxigenic strains carring a chromosomal *cpe* gene. The strains used in this study were isolated for foods in San Luis, Argentina. Starter vegetative cultures of each isolate were prepared by overnight growth at 37ºC in fluid thioglycolate medium (FTG). Sportulating cultures were preparated by inoculating 0.2 ml of the starter FTG medium culture into 10 ml of Tortora sporulation medium (Tm), and incubated for 72 h at 37°C. The diluted samples were plated onto brain heart infusion agar (BHI) to determinate the total number of vegetative cells at the start of heating (T0). For spores Tm cultures were shocked at 75°C for 20 min before the T0 recount. The temperature used were 55°C during 1,2,4,6,8 and 10 min and 61°C during 5,10,15,20 and 30 min for vegetative cells and 100°C during 5, 30 and 60 min for spores. New recounts were done in every step. At 55°C both isolated survive even 30 min. At 61°C both died at 5 min. The spores survived over 60 min at 100°C whereas is known that the not enterotoxigenic isolated die before 5 min. *C. perfringens* food poisoning isolated are typically more heat resistant than CPE-negative isolated. This fact should favor survival of the chromosomal cpe isolated in improperly warmed or incompletely cooked foods.

2.

COMPARATIVE STUDY OF GASTRIC CITOPROTECTIVE ACTION OF THE PLANTAGO MAJOR VERSUS ANTIULCEROUS AGENTS

Abud MA, Manco Lavado AE, Ponce CD, María A, Saad JR, Cejudo CA, García M.
Area Química Biológica. FCM-UNCuyo. Mendoza.

The target of this work was to evaluate the citoprotective gastric capacity of the Plantago major (Pm) against to antiulcerous drugs. The used substances were: offensive 96º alcohol, liofilizado of Pm to 10%, omeprazol 20 mg/kg and sucralfato 500 mg/kg, administered throughout an orogastric probe. It was worked with 5 lots of Wistar rats (6 in each one): normal control, insult control, and experimental lots. After 2 hs of treatment, the animals were sacrificed, blood was extracted to them to determinate: malonildialdehído (MDA) and antioxidantes totales (TAS). The stomachs were removed for histological study and study of the index of ulcers. The results show that stomachs,macrocospically are similar to each other except the lot of the insult wich presents hyperemia and loss of structure, confirmed by electronic microscopy. The used statistical studies were ANOVA 1 and post test of Bonferrone. The levels of MDA are raised significantly in the insult lot in reference to the remaining ones that do not show differences between each other. In respect of the TAS, it is diminished in the lot of the insult and sucralfato and it is increased in those with liofilizado of Pm, omeprazol and water. Conclusion: the liofilizado of Pm would behave in a similar way to omeprazol in the gastric protection.

3.

IMMUNOHISTOCHEMICAL STUDY OF S-100 PROTEIN IN PITUITARY OF VISCACHA

Acosta M, Mohamed F.
UNSL, Proy. 22Q/603. CONICET. E-mail: macosta@unsl.edu.ar

The S-100 protein is considered a marker of folliculo-stellate (FS) cells in several mammalian species. The objective of our work was to study the expression of this protein in the adenohypophysis of adult male viscachas by immunohistochemistry and image analysis. The FS cells of pituitary viscacha were stellate in shape and originated follicular structures with colloidal material in their lumen. In pars distalis (PD), the follicular colloids expressed the S-100 protein and they were mainly located in the caudal extreme. In pars intermedia (PI), the long cytoplasmic processes of the FS cells were in contact with the melanotrophs and communicated follicles with each other or with the Rathke´s pouch. Immunostaining for S-100 protein was observed in the cytoplasm, in the cytoplasmic processes and occasionally in the nucleus of the FS cells. Some follicular structures presented immunostained colloid with anti-S-100. These findings may be related to the scarce vascularization of PI, and the cytoplasmic processes of FS cells might originate an intercellular communication network. Immunostaining for S-100 presented variations for the morphometric parameters analyzed and spatial distribution in PD and PI. The differential expression of this protein suggests the presence of FS cells in different functional states, and the possible existence of cell subpopulations is not discarded. On the other hand, protein S-100 might play different roles inside and outside the cell.

4.

CONTENT AND PATTERN OF *N*-ALKANES IN SOME NATIVE FORAGE SPECIES FROM NE MENDOZA, ARGENTINA

Allegretti L, Egea V, Bakker ML, Paez S, Sartor C.
UNCuyo, IADIZA CCT Mendoza, Univ J A Maza, FCV Tandil.

Estimates of intake and diet composition to understand the foraging behaviour of Criollo goats in the rangelands of NE Mendoza are required but scarce. The *n*-alkanes present in forages may be used as markers to estimate diet composition. The objective of this preliminary study was to analyse the content and pattern of *n*-alkanes in some native forage species, to evaluate its potential to estimate diet composition in goats. Six species: *Prosopis flexuosa* (PF), *Capparis atamisquea* (CA), *Atriplex lampa* (AL), *Mimosa ephedroides* (ME), *Bulnesia retama* (BR), *Tricomaria usillo* (TU) were collected in March 2007, plant parts (current season´s leaves, stems or fruits) were analysed for odd *n*-alkane (C23 to C35) content (mg.kgDM^{-1}) by capillary GC, and the pattern of *n*-alkanes (% of each in total) was calculated. The patterns of *n*-alkanes had some contrasts among species and plant parts. More abundant *n*-alkanes in all species were C27, C29, C31 and C33; but C29 was high in ME fruits (72%), PF stems (70%) and leaves (61%) and TU leaves (61%), stems (54%) and fruits (52%), C31 in BR stems and fruits (74%) and ME stems (54%), and C33 in CA leaves and stems (68%). CA had also a comparatively high proportion of C35 (8%), which is a rare finding in forages. AL had C27, C29 and C33 accounting for *ca.* 25-30% of total each. A comparatively high proportion of the even *n*-alkane C28 (to confirm) in PF would allow the use of this compound as an extra marker to separate this species from others.

5.

PHOTODYNAMIC INACTIVATION OF *Candida albicans* SENSITIZED BY PORPHYRINS

Álvarez MG, Funes M, Otero LA, Durantini EN.
Dpto de Química, Universidad Nacional de Río Cuarto, Agencia Postal Nro. 3, X5804BYA Río Cuarto, Córdoba, Argentina.
E-mail: malvarez@exa.unrc.edu.ar

Antimicrobial resistance is a growing problem that complicates the treatment of nosocomial and community-acquired infections. In the last years, resistance of *C. albicans* is increasing against traditional antifungal, such as fluconazole. The search for new therapeutic approaches is stimulated by the fact that standard antifungal treatments are prolonged and expensive and the appearance of drug resistant strains is more frequent in patients. Photodynamic inactivation (PDI) represents an interesting alternative that involves the pre-treatment with a sensitizer, which it accumulates in microbial cells. The exposure to visible light leads to the generation of singlet oxygen ($^1O2$), which produces photodamage and destruction of cells. In this work was studied the PDI of *C. albicans* sensitized by a tetracationic porphyrin (P) and its metal complex with Pd(II). The cultures were treated with different concentration of sensitizer (1-10 μM) for 30 min at 37ºC in dark. Under these conditions, these porphyrins were innocuous in dark. The binding of porphyrin (P) to cells was determined by fluorescence, giving a value of 0.23±0.05 nmol/10^6 cells. After irradiation, the cell viability was depending of the concentration used and light fluence. When the cultures are irradiated for 30 min with visible light (90 mW/cm^2), over 99% of the cells are inactivated. The studies indicate that these porphyrins have potential applications in PDI of yeast.

6.

STUDY OF THE EARLY EVENTS IN THE *Trypanosoma cruzi* INVASION

Arboit MA, Rivero CV, Colombo MI, Romano PS.
Lab. de Biol. Celular y Molecular. IHEM-CONICET. Fac. de Ciencias Médicas. UNCuyo. Mendoza. Argentina.
E-mail: ¸promano@fcm.uncu.edu.ar

Trypanosoma cruzi, the etiologic agent of Chagas disease, invades a wide range of phagocytic and non-phagocytic cells by means of the infective trypomastigote form. Our group has demonstrated previously that *T. cruzi* interacts with the autophagic pathway during infection and that the induction of autophagy significantly increased the percentage of infected cells at 1-6 h after infection. Moreover autophagy induction increases the association between this parasite and Lamp-1, a protein that localize in lysosomes. The localization of *T. cruzi* and autophagosomes/autophagolysosomes were then confirmed by live cell imaging experiments. We next study the conection between the parasite vacuole and VAMP-7, a SNARE protein that associate with autophagosomes. Using CHO cells overespressing GFP-VAMP-7, we observed by confocal microscopy a colocalization between the parasitophorous vacuole and this protein whereas in cells overexpressing GFP-VAMP-7-NT, a non-functional protein, no localization was observed. We conclude that autophagic pathway is a key component in the lysosomal dependent entry of *Trypanosoma cruzi* into the host cell. Furthermore, fusion proteins like Synaptotagmin VII and VAMP-7 are implicated in the fusion process between autophagosomes and the plasma membrane.

7.

ROLE OF NF-kB IN TNFRp55-/-MACROPHAGE HYPER-ACTIVATION BY *Yersinia* LPS

Arias JL, Eliçabe RJ, Cargnelutti E, Di Genaro MS.
Immunología, FQBF, Universidad Nacional de San Luis.
E-mail: jlarias1980@gmail.com

The inducible transcription factor nuclear factor-kappaB (NF-kB) regulates gene expression during inflammatory and immune responses. Previously, we have demonstrated that TNFRp55 deficiency increases macrophage pro-inflammatory activity induced by *Yersinia* lipopolysaccharide (LPS) stimulation. The objective of the present work was to investigate whether NF-kB mediates this LPS-induced activation. Peritoneal macrophages from wild-type and TNFRp55-/-C57BL/6 mice were stimulated with *Yersinia* LPS (10, 100 or 1000 ng). Since the most abundant NF-kB form found in stimulated cells is the p65/p50 heterodimer, we analysed the effect of NF-kB inhibition by incubation of 100 ng LPS-stimulated macrophages with an oligonucleotide sequence of p65 antisense (1μM). Nitric oxide (NO) concentrations were measured in the supernatants by Griess reaction. Higher NO levels were secreted by TNFRp55-/-macrophages stimulated with 100 or 1000 ng LPS ($p<0.01$ or $p<0.005$, respectively) compared with wild-type macrophages. In addition, polymixine B treatment, a LPS inhibitor, decreased significantly NO secretion ($p<0.003$). Interestingly, antisense p65 significantly reduced NO secretion of LPS-stimulated TNFRp55-/-macrophages ($p<0.05$). We concluded that TNFRp55 deficiency increases susceptibility of macrophages to LPS stimulation, and that NF-kB is a transcriptional regulator of this LPS-induced hyper-activation.

8.

PHYSICO-CHEMICAL PARAMETERS OF WATER WHERE *Galba truncatula* IS FOUND IN MENDOZA, ARGENTINA

Artigas P[3], Sidoti L[2], Deis E[2], Cuervo P[1,2], Mera y Sierra RL[1,2]
[1]Fac Cs Medicas UNCuyo; [2]Fac de Cs Veterinarias UMAZA; [3]Depto. Parasitología, Univ de Valencia, España.
E-mail: rmera@fcm.uncu.edu.ar

Fasciolosis is a parasite disease transmitted by freshwater snails of the family Lymnaeidae (Gastropoda). There is a consensus that *Fasciola hepatica* has a European origin, with *Galba truncatula* as the main vector. This mollusk has been described recently in Argentina, generating a huge potential impact on public health The distribution of the disease is mainly affected by the distribution of the host intermediary, so from the epidemiological point of view knowledge of the characterization and the availability of suitable environments for their presence is vital. The main physical-chemical parameters in waterways associated with the presence of *G. truncatula* at different sites in the province of Mendoza, Argentina are described. A random serialized sampling was carried out in the Mendoza, Tunuyán, and Malargüe basins. We found out that *G. truncatula* is distributed in waters that are considered soft, with a neutral pH and with low values of conductivity and hardness. One important finding is at the site Niña Encantada, where the values of conductivity (1025 mho·cm^{-3}) and permanent hardness (295 ppm) are very high compared to other sites, which might be revealing a high adaptability of the snail to this kind of ecotopes.

9.

MIGRATORY BIRDS AS PUTATIVE DISPERSAL AGENTS OF *Galba truncatula* between ARGENTINA AND BOLIVIA

Artigas P[2], Mera y Sierra RL[1], Cuervo P[1], Morales J[1], Pescetti E[3]
[1]Fac Cs Medicas UNCuyo; [2]Dpto Parasitología Univ Valencia; [3]IADIZA CRICYT. E-mail: rmera@fcm.uncu.edu.ar

Galba truncatula is the most efficient vector of *Fasciola hepatica*. This aquatic snail was introduced from Europe to the Bolivian Altiplane in colonial times. Recently, we have described *G. truncatula* profusely distributed in Mendoza province, Argentina. This arouses the question of how it arrived, since more than 2000km of mountainous arid regions separates both populations with vast expanses lacking any superficial water. The role of migratory birds as dispersal agents of aquatic snails was already hypothesized by Charles Darwin as an efficient and insuperably fast mode, since a migratory bird can cover over 1000km in a some days journey. In southern Mendoza lies the Llancanelo wetlands, one of the greatest concentrations of migratory birds in Argentina where a population of over 200,000 aquatic birds are accounted. We have identified various populations of *G. truncatula* in surrounding areas. There are three migratory routes that communicate Mendoza with Bolivia. 25 out of the approximately 90 species of aquatic birds described for Mendoza, are migratory birds that traverse these routes. Thus, the possibility of migratory birds as an explanation of the presence of *G. truncatula* in Mendoza is a plausible one.

10.

DETECTION OF FUNGI IN SEEDS OF *Piptochaetium napostaense*, *Poa ligularis* AND *Nassella tenuissima*

Baracco JF, Larrusse AS, Andrada NR.
FICES. UNSL. 25 de mayo St. 384 -5730. Villa Mercedes (San Luis).
E-mail: sularro@fices.unsl.edu.ar

The fodder productivity of the grassland, it could decrease for diseases in the poaceous specie. Being the seed a transmission agent and dispersion of pathogen they were carried out studies to determine the presence of fungi in the winter species *Piptochaetium napostaense* (Speg.) Hack., *Poa ligularis* Nees ap. Stend. and *Nassella tenuissima* (Trin.) Barkworth. 350 seeds of each species were harvested, for the method of Daubenmire, in the center-south of San Luis' province. Standadized techniques were used for the detection of pathologies in poaceous seeds. Fungi were identified by morphology observation in stereoscope microscope and support of specific bibliography. They were isolated and they identified in *Nassella tenuissima* specie of: *Aspergillus*, *Penicillium*, and *Cladosporium*. In *Poa ligularis*: *Alternaria*, *Helminthosporium*, *Pythium* and *Aspergillus*. In *Piptochaetium napostaense*: *Aspergillus*, *Penicillium*, *Pythium* and *Rizophus.* Other species that were isolated, have not still been identified. The total incidence of pathogens for pasture was respectively of 19,71%, 75,43% and 73,43%. This work is indispensable to carry out later studies about type of association pathogen-seed, dispersal, transmission, and incidence in the resowing.

11.

WETLANDS CLASSIFICATION OF THE NORTH OF THE DEPARTMENT PEDERNERA (SAN LUIS, ARGENTINA)

Barbosa OA, Alcaraz PP, Gutiérrez PA, Cerda RA, Galarza FM.
Natural Resources Area, FICES, UNSL, Villa Mercedes.
E-mail: barbosa@fices.unsl.edu.ar

The aim of this work was to carry out a classification of the wetlands that occur in the area located between the 33º 05´ and 33º 40´ S and 65º 06´ and 65º 40´ W. Two systems were employed: the classification of landscapes of the Interamerican Center of Aerophotointerpretation (CIAF) and the wetlands habitat classification of the US Fish and Widlife Service. The study area is comprised of 1) four landscapes in "Chaco-Pampeana" plain (concave sectors and deflation basins, gullies, saline depression, terraces and floodplain) and 2) three landscapes in the "Sierras Pampeanas de San Luis" (mountain stream and clipped valleys, valleys and gullies and clipped gullies). The classification according to the FSW is comprised of basically, two systems: riverine and palustrine. The first is compound by two subclasses, perennial lower and intermittent channels. In general is comprised of emergent wetlands of erect, rooted, herbaceous hydrophytes. The streams regime is characterized of temporary floods and seasonally saturated floods. The water chemistry includes oligosaline and alkaline water as well. We conclude that the utilization of the proposed procedure allowed characterizing, defining and classifying these ecosystems. The methodology of the physiographic analysis and the classification system used (CIAF) achieved a delimitation and a more precise characterization of each one of them. It allowed a quick, expeditious and decisive classification of these habitats according to the FSW.

12.

IONIC ACCUMULATION IN *Atriplex* SEEDLINGS AS AN OSMOTIC ADJUSTMENT MECHANISM

Bárcena N[1], Ruiz M[2], Parera C[2].
[1]CONICET; [2]EEA INTA San Juan-1-EEA INTA San Juan.
E-mail: nadiabarcena@yahoo.com.ar

Most of Atriplex species are ion-accumulator halophytes, they are found in dry environments associated to salinity and constitute an important fodder resource for extensive cattle raising. Ion incorporation to the plant forms part of an osmotic adjustment mechanism that allows them to adapt to the high concentrations of salts in the ground. The objective of the work was to evaluate the ionic accumulation in *Atriplex crenatifolia, A. nummularia, A. lampa* and *A. argentina* after watering with saline solution. Seedlings from the four species obtained from seeds were cultivated in a greenhouse. The treatments were the watering with: 0, 1, 2 and 4% of NaCl solutions during 30 days in random blocks with 6 repetitions. The amount of Na^+, K^+, Ca^{++}, Mg^{++} y Cl^- in shoot was determined, percentage of ashes (%C) and electrical conductivity (CE) of the substrate. The data were analysed with ANOVA and for the separation of averages the Test of Tukey was used. The %C raised with salinity. The Na^+ accumulated gradually in response to the treatments, mainly in *A. argentina*. The Cl^- also increased with the treatments, being *A. nummularia* the one which accumulated the most. K^+ amount was variable among species and treatments tending to diminish. Ca^{++} y Mg^{++} amount decreased in all species. While CE increased from 12 to 98 mS/cm. The results show a rise in the inorganic portion in air space, less in *A. crenatifolia*, while *A. lampa* differentiated from the rest implying another osmotic adjustment mechanism and/or salt extrusion.

13.
DIFFUSION COEFFICIENT OF GUM ARABIC

Bertoluzzo MG, Bertoluzzo SMR, Rigatuso R.
Fac de Cs Bioq y Farm, Univ Nac de Rosario, (2000) Rosario.
E-mail: mgbysmb@cablenet.com.ar

The gum is a polysaccharide of natural origin, with varying amounts of D-galactose, L-arabinose, L-rhamnose and some acid derivatives such as D-glucoronico acid or 4-O-methyl-D-glucoronico acid. It comes from the resin Acacia Senegal and Acacia Seyal as part of their healing process known as gummosis. In the international market are spent 45,000 tons a year of gum arabic. It is used in the lithographic industry, as well as in the manufacture of jelly beans and as a stabilizing wine. In this work the diffusion coefficient of a solution of gum arabic is measured. The variation of concentration in space and time due to the diffusion generates variations in the refractive index. A diffusimeter sensitive to changes in refractive index was built which basically consists of a cylindrical lens at an angle of 45º to the horizontal where impacts a laser beam of He-Ne. The beam passes through a removable cuvette and suffers a deflection. The height of the peak (H) is measured as a function of time and the diffusion coefficient is obtained from the slope of the plot $1/H^2$ vs time. The diffusion coefficient for aqueous solutions of gum arabic increased with the decrease in the concentration tending to a value of 3.2×10^{-10} m^2 / s for very dilute solutions. The samples of aqueous solutions of gum arabic, viewed with the optical microscope are heterogeneous. In the most concentrated, was detected the presence of crystals, which viewed with polarized light proved to be optically active. The dilution of the samples showed a decrease in the presence of these crystals in line with the increase in the rate of diffusion.

14.
DETERMINATION OF THE AMOUNT OF STARCH IN POTATOES UNDER DIFFERENT CONDITIONS OF COOKING

Bertoluzzo SMR, Vallasciani M, Barbieri G, Bertoluzzo MG.
Fac de Cs y Bioq Farm, Univ Nac de Rosario, (2000) Rosario.
E-mail: mgbysmb@cablenet.com.ar

The potato is a very nutritious food which has energy functions due to its high content of starch (16-20%) polysaccharides complex that are absorbed as glucose after hydrolysis enzymatic. The nutritional value of potato depends on the form of consumption. Overall the consumption of potatoes for diabetics is recommended more than the consumption of fruits rich in simple sugars. This is because polysaccharides prevalent in tubers and cereals are carbohydrate of slow digestion and absorption, and therefore, the peaks of glucose and insulin produced later after the intake of such foods are lower which is more desirable from a physiological point of view. The aim of this study is to determine whether the quantity and microscopy of starch from potatoes varies according to the form of cooking it. This work was done with a batch of potatoes, which were subjected to four different cooking conditions, in water with and without salt and potatoes with and without peel. Starch was extracted from samples cleaned with water and leaving decant starch. The samples were observed with optical microscope. From the results we can conclude that the amount of starch obtained is greater in the case of the samples without salt and cooked with peel, than the ones in salt and cooked with peel. The microscopic observations showed marked differences that might influence the digestion of it, taking into account the physical accessibility of digestive enzymes.

15.
QUALITY CONTROL METHODOLOGIES OF SERVICES IN A PRIMARY ATTENTION MEDICAL CENTER

Bianchi RA, Bratt N, Rossi J, Moreno R.
Centro de Salud Nº 5. Área Departamental Guaymallén. Región Sanitaria Norte. Ministerio de Salud. Mendoza.
E-mail: bianchidoc@ yahoo.com.ar

Evaluation of the control of quality had been used for a long time in evaluating the quality of manufactures and merchandises. The rules of control of the quality appear as a consequence, along with the concepts of production, consumers and satisfaction indicators. The new trends in sanitary administration allow this methodology to be used in evaluation of these services. The object of the present work was to evaluate the quality of the services from the Nº 5 Health Center (Administration, laboratory, maintenance and pharmacy), pre and post implementation of the "Remediar" Program. Surveys were in use with four alternatives for the punctuations from 0%, 25%, 50% to 100% expressed as satisfaction index.
The results indicated satisfaction in the services of administration and maintenance and some failings in laboratory and pharmacy. This methodology allowed to correct some mistakes allowing the optimization of the offered services. The methods in diagnose and evaluation of CAPS (Health Center) of medium complexity are introduced with the purpose of create a culture of evaluation, in health workers and in patients as well.

16.
HYPERCHOLESTEROLEMIC AND MEDITERRANEAN DIETS: CONSEQUENCES ON SPERM PHYSIOLOGY

Boarelli P, Saez Lancellotti E, Espínola S, Hualpa A, Fornés M.
IHEM, FCM, UNCuyo. FCM, UDA.
E-mail: pvboarelli@yahoo.com.ar

Hypercholesterolemia is a causal factor of atherosclerosis and "cellular" diseases. Modified diets might lead to cut down serum cholesterol and also modified cell membrane. We investigate the effects of hypercholesterolemic (HCd) and Mediterranean diet (olive oil supplemented, Md) on rabbit sperms (S). The HCd treatment (16% bovine fat/total intake) caused significant increase ($p < 0.05$) in total serum cholesterol (121.8 ± 5.3 *vs.* 20.4 ± 2.7 mg/dl; control). Concerning sperm cell, we found changes in subcellular lipid distribution in sperm heads (*Filipin III*), reduction in sperm motility ($53.6 \pm 5{,}9\%$ *vs.* $72.4 \pm 3.4\%$, control; $p < 0.05$) and the acrosome reaction (AR, *Triple Stain Test*) showed a 20% decrease ($p < 0.05$) compared to control conditions. Md treatment (14% olive oil /total intake) significantly improved ($p < 0.05$) both membrane integrity (*HOS-T*) and AR. Experimental diets did not cause significant changes in others parameters as animal weight (control: 3.9 ± 0.5; HCd: 3.7 ± 0.3; Md: 3.8 ± 0.5 kg), libido and semen physical characteristics. In conclusion, saturated fat consumption promotes an increase in cholesterol (serum and sperm head membrane, acrosomal region), and a decrease in sperm motility and AR. Md might be associated to an improvement in S quality.

17.

DECREASED NHE_1 LINKED TO APOPTOSIS IN NEO-NATAL U-NILATERAL URETERAL OBSTRUCTION (UUO). LOSARTAN EFFECT

Bocanegra V, Manucha W, Vincenti A, Fornes M, Valles P.
FCM. UNCuyo. IMBECU-CONICET. Mendoza.

The RAS plays a central role in renal disorders progression. UUO markedly activates the RAS mechanical signal resulting from UUO and increases hydrostatic pressure and renal tubule dilation which lead to apoptosis induction. NHE_1 is an important regulatory volume increase component. We exa-mined NHE_1 participation in the regulation of the apoptotic response and further evaluated the effects of Angiotensin II inhibition with Losartan in the neonatal UUO.Within 48h of birth rats were subjected to UUO or sham surgery. They received Losartan, 10mg/kg/d (CLos/OLos); AT_2 inhibitor, PD123319 (CPD/OPD), or vehicle (CH_2O/OH_2O) for 14 days. TUNEL,electron microscopy, western blot (NHE_1,NHE_3, Bax, Bcl2, Procaspase3 and Caspase 3) and Caspase3 assay were per-formed. Increased apoptotic cells in CCD of OH_2O vs CH_2O with apoptosis persistence in OLosvsOH_2O was shown. Apoptosis was confirmed by electron microscopy. PD123319 had no effect. Decreased NHE_1 protein expression in obstructed cortex vs control whereas no differences in NHE_3 expression were shown. Increased Bax/Bcl2 ratio linked to decreased Procaspase3 and increased Caspase3 activity demonstrated mitochondrial apoptotic pathway activation in OL and OH cortex.Conclusion: Decreased NHE_1 expression may be involved in the persistent tubular cell apoptosis by the mitochondrial pathway after Losartan administration to neonatal UUO. Losartan should be avoided in neonatal UUO.

18.

HISTOCHEMICAL STUDY OF THE SALIVARY GLANDS OF *Pomacea canaliculata*

Boccia N, Godoy SM, Vega IA.
Lab. of Physiology, IHEM, UNCuyo-CONICET, C.C.33, 5500 Mendoza. E-mail: ivega@fcm.uncu.edu.ar

Since some decades, a big interest about *P. canaliculata*, has emerged in different topics (evolution, ecology, physiology and biology); however the digestive physiology is less known. In this work, to evaluate the possible digestive role of the saliva of apple snail, we made a histological study of the salivary glands using the following stains and reactions: Harris hematoxylin-eosin, Alcian Blue (AB), Periodic Acid Schiff (PAS) and Feulgen. These two yellow glands are orientated parallel to the anterior esophagus (crop). A central duct and a blood vessel with abundant cells containing urate crystalloids are observed; also, a layer of muscle cells that round the central duct seems to be an important factor in the flow of glandular secretion forwards to the crop. The acinous salivary glands are composed by three cellular types: 1) cells frequently cubic in form with a small nucleus and paled cytoplasm with high amounts of acidic polysaccharides (AB: positive), these cells seem to correspond to the mucocytes of other gastropod molluscs, 2) cells with a large and hyperchromatic nucleus (with nucleolus) placed centrally and a big cytoplasm; these cells are strongly stained by both, AB and PAS, revealing high amounts of acid and neutral polysaccharides and, 3) cells with a picnotic nuclei surrounded by a basophilic cytoplasm; the giant nucleus of these cells present a ploidy mayor than other two cellular types (Feulgen reaction), so it may mean a larger extent of protein expression; in this sense, this cells could be correspond to the granular cells that produce secretory proteins in opistobranch gastropods.

19.

INDICATORS VARIABLES OF THE EXPRESS OF FATTY ACIDS OF THE SOYBEAN OIL

Bologna S, Rojas E, Martínez Alvarez D.
Departamento Ciencias Agropecuarias. Universidad Nacional de San Luis. E-mail: sbologna@fices.unsl.edu.ar

The soybean oil is rich in fatty acid (FA) essentials, being among the most recommended for human nutrition. It contains 15% saturated FA (palmitic acid and stearic acid), 23% of monoun-saturated (oleic acid) and 62% of polyunsaturated (55% linoleic acid and 7% linolenic acid). The linoleic acid (main constituent of the omega 6) and linolenic acid (omega 3) are the only essential for man kind because he can not synthesize them and therefore must be supplied in the diet. The genetic expression of the FA depends on environmental factors as the intensity and quality of light and temperatures. With the objective of analyzing the influence of the environment in the expression of the FA through indicator variables advanced lines of non-transgenic soybeans in two environments: Villa Mercedes (SL) and Marcos Juárez (Cordoba) were evaluated. The lines were selected in preliminary tests for its differential FA content and average content of oil higher than the average of witnesses and the parents. A Linear Discriminate Analysis we performed to identify indicator variables with greater power of environments discrimination. The standardized weights with the common variances were analyzed and found that the content of oleic is the variable with greater power of discrimination between environments and in second place the linolenic variable.

20.

VARIABILITY IN AGRONOMIC CHARACTERS AND SOYBEAN OIL QUALITY

Bologna S, Rojas E, Martínez Alvarez D, Escudero S.
Departamento Ciencias Agropecuarias. Universidad Nacional de San Luis. E-mail: sbologna@fices.unsl.edu.ar

The demand of vegetable oils with differential quality has prompted investigations on chemical components variation of soybean grain. Modifying the fatty acids (FA) profile can improve the quality of the oil for industrial, alimentary and nutraceutic uses. The advances in the FA genetics have been limited for the scarce characterization of the variability. With the objective to explore and to describe the variability in agronomic characters and oil quality, 22 lines of soybean in Villa Mercedes, San Luis province, were evaluated. Grain yield (GY), seed weight (SW), oil content (OC) and FA contents: oleic (18:1), linoleic (18:2), linolenic (18:3), palmitic (16:0) and estearic (18:0), were determinated. To explain the variability with regard to all the variables, a Main Components Analysis and a graphic Biplot was carried out. The perpendicular projections on the component that explains the major percentage of variability were analyzed and the genotypes 3 and 5 were the cases of greater inertia and the most representative of the total variability was observed. The genotype 3 expressed greater SW, greater oleic and lower estearic; the genotype 5 expressed smaller GY, smaller OC, greater linoleic. The oleic, linoleic and linolenic variables determined the greater variation observed. The methodology applied make an excellent tool to characterize the variability.

21.

FIRST RECORD OF THE GENUS GYMNETIS SPP. MACLEAY (COLEOPTERA: SCARABAEIDAE: CETONIINAE) IN THE PROVINCE OF SAN LUIS

Bonivardo S, Martínez A, Pollachi E.
FICES. UNSL. 5730 Villa Mercedes, San Luis.
E-mail: bonsil@fices.unsl.edu.ar

The larvae of "white grubs" (Coleoptera: Scarabaeidae) are one of the members of the fauna edafícola best known, and are associated with damage to the underground parts of cultivated plants. They have various types of activity trophic considered genus Gymnetis spp as saprophyte, consumed vegetable waste degraded, the adults, runoff from sap, ripe fruits or nectar. In America this group is represented by almost all members of the subfamily Cetoniinae. The larvae were determined using the key Moron Rios (2006). Are characterized by: anal opening cross-straight; raster with palidia; lacinia with one or two unci terminals, sometimes reduced; estridulatory teeth with sharp projections; labrum symmetrical trilobed; last segment antennal with more than two dorsal sensory areas. It was cited for the first time the presence of genus Gymnetis spp. Macleay (Coleoptera: Scarabaeidae: Cetoniinae) for the province of San Luis and describes the characteristics of exomorfológicas larvae.

22.

GROWTH AND CARCASS CHARACTERISTICS IN KIDS FROM CREOLE AND F_1 CREOLE x BOER GENOTYPES

Bonvillani A, Petryna A, De Gea G, Mellano A, Bavera G, Montoya O, Real G, Scianca N, Campos L.
FAV-UNRC. E-mail: abonvillani@ayv.unrc.edu.ar

The objective of this study was to evaluate growth and carcass characteristics in kids from different genotypes and diets. Sixteen kids from two genotypes, Creole (C) and F_1 Creole x Boer (CB), were assigned randomly to two dietary treatments (4 kids/treatment) in a completely randomized design. Diet I (DI): maternal milk supplemented with pastures and Diet II (DII): maternal milk supplemented with commercial calf starter. Kids were slaughter at 60 days of age. There were significant interaction ($p<0,05$) between genotypes and diets treatments: slaughter weight was superior in kids CB+DII (13,72 kg), had intermediate values in CB+DI (11,56 kg) and in C+DII (11,46 kg), and the lowest values was for C+DI (10,13 kg). Hot carcass weigth showed significant differences ($p<0,05$) between the four groups analysed: CB+DII: 7,35 kg; CB+DI: 5,85 kg; C+DII: 5,43 kg and C+DI: 4,68 kg. Interactions were also observed in: total gain weight, shoulder and leg weight and shoulder muscle content. Dressing percentage was significantly higher ($p<0,05$) for genotype CB (52,13%) than for C (46,81%) and for DII (50,50%) than for DI (48,45%). Ribs, neck, flank weight and shoulder bone content were significantly higher in kids CB and in DII. Carcass measurements and conformational indices were better in CB genotype and in DII. These results reflect that with both diet treatments the crossbreeding with Boer goats improved growth and carcass characteristics.

23.

SUBCELLULAR LOCATION OF PROTEINS WITH THIOLS GROUPS, DURING EPIDYDIMAL MATURATION

Cabrillana ME, Monclus MA, Vincenti AE, Fornés MW, Yunes R.
IHEM, Facultad de Ciencias Médicas UNCuyo-CONICET Mendoza. E-mail: mecabrillana@fcm.uncu.edu.ar

During epididymal trip, the sperm proteins support a thiol oxidation. This redox changes from thiol to disulfides bonds in flagellar proteins are associating with the acquisition of sperm motility, capacitation, acrosome reaction and fertilization. Ours objectives were isolate different sperm subcellular fractions with proteins rich in this thiol groups. Using different detergent and sucrose gradient, we fractionated this cell such as head, acrosomal proteins, principal and terminal piece, outer dense fibers and fibrous sheath. Then we certificated the success of this procedure by electron microscopy. On the other hand we used monobromobimane, a fluorescent reactive that labels with protein's thiols groups. We localized, by fluorescence microscopy, witch cellular fraction reacted. Others aliquots, were prepared for SDS-PAGE. About 27 kDa band, display a great fluorescence as well as the tail of the sperm. With this positive band we raised polyclonal antibody immunize rabbits. A positive reaction with sperms tail was observed. Finally, by immunological technique we are in condition to localize this protein/s in other tissues, and then to initiate the molecular characterization of this protein/s. These results allow us to find a probable function of these proteins in the sperm.

24.

INDUCTION OF iNOs EXPRESSION IN MOUSE PERITONEAL MACROPHAGE BY *Clostridium septicum*

Cáceres CS, Villa MC, Vega AE, Gallo GL, Ortega N, Cortiñas TI, Stefanini AMS.
Área Microbiologia. UNSL. Chacabuco y Pedernera. 5700. San Luis. E-mail: ticor@unsl.edu.ar

Clostridium septicum is the causative agent of traumatic gangrene in most animals and endogen myonecrosis in man. Without a treatment all the infections are of rapid establishment and inevitably fatal. Previous results showed the capacity of *Clostridium septicum* to induce necrosis or apoptosis on mouse peritoneal macrophage (Mφ) depending of the infective doses. Both are considered mechanisms for evasion of innate immune system as they achieve the destruction of key immune system cells. The aim of this study was to analyze the induced nitric oxide sintetase (iNOS) expression of Mφ induced by *C. septicum* infection. Cells of *C. septicum* ATCC 12464 collected at logarithmic phase of grow in a clostridial medium under anaerobic conditions were used to infect Mφ. The expression of iNOs gene and B actin as housekeeping gene were analyzed with the multiplicity of infection (moi) 1:10 y 1:100 at 4 and 24 h. For RNA extraction, 10^6 cells/well were treated with TRIzol reagent. cDNA was performed with random hexamer and 200 U Moloney murine leukaemia virus reverse transcriptase. The results showed increased iNOS expression at moi 1:100 at 4 h and a lost of it at 24 h meanwhile at moi 1:10 a low expression of iNOS was sustained both at 4 and 24 h. The expression of iNOs confirmed the previous hypothesis on the effect of nitric oxide (NO) inducing apoptosis or necrosis depending of the levels of NO produced by the Mφ.

25.

PARTICIPATION OF β-ENDORPHINERGIC SYSTEM ON THE INHIBITORY EFFECT OF CLONIDINE ON INDUCED SODIUM INTAKE

Caeiro X, Vivas L.
INIMEC-CONICET. Córdoba. E-mail: xcaeiro@immf.uncor.edu

Considerable evidence has been gathered involving the interaction of α2-adrenergic and β-endorphinergic systems in hydrosaline and cardiovascular homeostatic regulation. In order to evaluate if, the inhibitory action of clonidine (α2-adrenergic agonist) on sodium appetite, is mediated by the β-endorphinergic system, β-endorphin knockout ($\beta end^{-/-}$), heterozygous ($\beta end^{+/-}$) and wild-type ($\beta end^{+/+}$) mice were submitted to the combined treatment of furosemide and low sodium diet and twenty hours later were injected with clonidine (0.5 mg/kg, i.p). Afterwards, the mice had access to a two bottle choice test (water / NaCl 2%). Although no differences were observed on induced water intake of mice from different genotypes, the present results indicate that $\beta end^{-/-}$mice treated with clonidine showed not only a prior reversion of sodium appetite inhibition, but also a mayor consumption of saline solution when compared to the consumption response observed in $\beta end^{+/+}$ and $\beta end^{+/-}$mice. In summary, our results indicate that clonidine exerts a minor inhibitory response on induced sodium appetite in mice lacking β-endorphin, suggesting that the inhibitory action of α2-adrenergic system on induced sodium intake may be mediated, at least in part, by the β-endorphinergic system.

Supported by ANPCyT and CONICET.

26.

INFLUENCE OF ESTRADIOL IN THE PERIPHERAL NEURAL REGULATION OF OVARY AT THE END OF PREGNANCY IN THE RAT

Campo Verde Arbocco F, Vallcaneras S, Casais M, Rastrilla AM.
Laboratorio de Biología de la Reproducción-FQByF-UNSL Chacabuco 917. E-mail: arboccocv@hotmail.com

Our research group have standardized an integrated *ex vivo* Celiac Ganglion-Superior Ovarian Nerve-Ovary (CG-SON-Ovary) system, whose vitality has been proven physiologically and histologically. The objective was to research if estradiol (E_2) in CG modifies the physiology of the ovary at the end of pregnancy (day 21) in the rat. The CG-SON-Ovary system was incubated in Krebs Ringer-glucose-albumin (0.1 mg/ml) at 37ºC, keeping CG and ovary connected by the SON, in separate cuvettes. In the CG compartment was added E_2 in concentrations 10^{-6}M, 10^{-8}M and 10^{-9}M. Controls were not stimulated. In the ovary compartment, at 30, 60, 120, 180 and 240 min of incubation, Progesterone (P) liberated was measured by RIA and nitric oxide (NO) by Griess reaction; at the end of the incubation period (240 min), in the luteal tissue was determined the enzymatic activity of 3β-hydroxysteroid dehydrogenase (3β-HSD) and 20α-HSD (synthesis and degradation of P enzymes, respectively). Was utilized ANOVA 1 followed by Tuckey test with a statistical significance of $p < 0.05$. The results were: E_2 in CG, decreased the release of ovarian P in all concentrations tested; did not produce changes in the release of NO neither in the enzymatic activities. Estradiol in CG, through SON, acts in favor of functional luteal regression.

27.

CAPTOPRIL PRENATAL TREATMENT INDUCE APOPTOTIC RESPONSE DURING DEVELOPMENT IN RAT LUNG

Capelari DN[1], Fuentes LB[2], Ciuffo GM[1].
[1]Area de Biología Molecular. [2]Area de Farmacología. UNSL. San Luis, Argentina. E-mail: dncapela@unsl.edu.ar

The process of programmed cell death, or apoptosis, is characterized by distinct morphological characteristics and energy-dependent biochemical mechanisms. Apoptosis is considered a vital component of various processes including normal cell turnover, proper development and chemical-induced cell death. Bcl-2 family members determine cell death and survival by controlling mitochondrial membrane ion permeability, cytochrome c release, and the subsequent activation of caspase. The aim of this study was to investigate the effect of prenatal ACE inhibition on mediators of apoptotic signalling in postnatal lung tissue development. Miniosmotic pumps with captopril or saline solution were implanted in pregnant Wistar rats during the last week of pregnancy. Pup's lungs at four different ages: PND0, PND8, PND15 and PND30 were evaluated. The expression of anti-apoptotic Bcl2 or pro-apoptotic BAX was analysed by RT-PCR and caspase-3 activity was confirmed by Western blot analysis. Semiquantitative assessment indicated significant up-regulation of Bcl2 expression (ANOVA, $P<0.001$) at PND15 and significant down-regulation (ANOVA, $P<0.001$) at PND30 in captopril treatment group, respect to controls. We found high BAX expression without significant differences during development. Caspase-3 activity in treated rats was present in all ages evaluated, especially at PND0 and PND30. These results suggest that prenatal captopril treatment interferes with normal process of apoptosis in postnatal lung development.

28.

ANDROSTENEDIONE MODULATES STEROID RELEASE THROUGH OVARIAN NERVOUS PLEXUS IN POLICYSTIC OVARIES

Capone IC, A Vega O, Martinez C, Bronzi D, Sosa Z, Rastrilla AM.
LABIR. FQB y F. UNSL. E-mail: zsosa@unsl.edu.ar

Policystic Ovary Syndrome (PCO) is characterized by a complex endocrine disorder associated to chronical anovulation, androgen excess and infertility, with ovary as a target organ. The objective of this work was: 1º to study presence of androstenedione (A_2) receptors in superior mesenteric ganglion (SMG), 2º to study the effects of A_2: 10^{-6}M and 10^{-8}M added in ganglion compartment on ovarian Progesterone (Pg), A_2, Estradiol (E_2) and Nitrites release, and 3º to measure the enzymatic activity of 3β-HSD and 20α-HSD in ovary. Animals were injected with E_2 valerate IM solution (2 mg/rat) on the first cycle, during dioestrus I (DI) stage and sacrificed 30 days later in the same state. E*x vivo* system SMG-ovarian nerve plexus-ovary was incubated in Krebs Ringer-glucose-albuminin (0,1 mg/ml) 37ºC. ANOVA I followed by Tuckey test with a statistical significance of $p < 0.05$. Hormones were measured by RIA, Nitrites by Griess method and enzymatic activity by spectrum-photometric method. The results show the presence of A_2 receptors in ganglion slices. Besides A_2 in ganglion increased E_2 and Pg release and the activity of 3β-HSD ($p<0.001$) nitrites and A_2 release decreased ($p<0.001$), and activity of 20α-HSD ($p<0.05$). The presence of A_2 receptors in ganglion suggest that they can be involved in the ovarian steroidogenesis and can be associated to the high circulating A_2 levels in PCO rat.

29.

EFFECT OF OSMOPRIMING ON THE GERMINATION OF *Panicum coloratum*

Carabajal M[1], Ruiz M[2], Parera C[2].
[1]FCEFyN, UNSJ; [2]EEA INTA. San Juan.
E-mail: moruiz@sanjuan.inta.gov.ar

Panicum coloratum is a perennial grass, of high forage quality, with spring -summer season growth. This was introduce for amount because produced grazed pasture and frosts tolerance. The *P. coloratum* seeds have dormancy as several spring -summer grazed pasture. This mechanism prevents the germination of the totality of the seeds in a same station of growth, making difficult the uniform development of the grass. The germination can be improved by priming treatment. Priming activates physiological and biochemical processes, which are translated in necessary metabolic transfor-mations for the establishment of most rapidly seeds. In this study was tested the osmopriming effect in the establishment of *Panicum coloratum cultivars green Klein* seeds. Five different times from osmopriming for 1, 2, 4, 10 and 18 days were evaluated, 4 osmotic solutions NaCl, KCl, Na_2SO_4 and K_2SO_4 and 3 water potentials of -1, -2 and -3 Mpa. The shortest treatments, 1 and 2, days were most effective; they enhance more rapidly germination (ERI), lower mean emergence time (MET) and greater germination percentage than untreated seed. Among 4 osmotic solutions evaluated, the most effective was NaCl, whereas the water potentials were equally appropriate for the osmopriming.

30.

CYTOKINE PROFILE INVOLVED ON Th17 DIFFERENTIATION IN TNFRp55-/- MICE WITH *Yersinia* INDUCED-REACTIVE ARTHRITIS

Cargnelutti E, Eliçabe RJ, Di Genaro MS.
Fac Qca, Bqca, Fcia. Univ Nac San Luis. 5700 San Luis.
E-mail: ecargnel@unsl.edu.ar

We demonstrated that TNFRp55 deficient mice develop reactive arthritis (ReA) after oral *Yersinia enterocolitica* O:3 infection. The objective was to compare the cytokine profile involved in T helper (Th) 17 differentiation in mucosal and articular regional lymph nodes of infected C57BL/6 wild-type (WT) and TNFRp55-/-(KO) mice. The mice were orally infected with 1-6 x 10^8 colony-forming units (CFU) of *Y. enterocolitica* O:3. At days 7, 14 and 21 after infection, the mice were sacrificed and mesenteric (MLN) and inguinal (ILN) lymph nodes were aseptically removed. Organ homogenates were prepared and clarified by centrifugation. The supernatants were used for cytokine determinations. Interleukin (IL)-17, tumor growth factor (TGF)-β and IL-6 levels were measured by ELISA. At day 7, we found higher levels of IL-17 in KO than WT mice in MLN (p<0.01) and ILN (p<0.02). Similar results were detected but only in ILN at day 21(p< 0.05). The IL-17 levels in MLN were in parallel with IL-6 and TGF-β at day 7 (p<0.02 and p<0.005, respectively), and in ILN at days 7 (p<0.008 and p<0.003, respectively) and 21 (p<0.01 and p<0.02, respectively). Interestingly, WT mice showed higher MLN TGF-β level at day 21 after infection (p<0.01). We concluded that KO mice with *Yersinia*-induced ReA have higher IL-6 and TGF-β response related with Th17 differentiation, and that in contrast with MLN, ILN do not control this IL-17 response.

31.

STRUCTURAL BIOLOGY OF *T. cruzi* mRNA MADURATION PROTEINS AS POTENTIAL TARGET FOR DRUG DESING

Carmona N, Gómez Barroso JA, Bercovich N, Vazquez M, Aguilar CF.
Lab de Biol Mol Estructural, Univ. Nac de San Luis, San Lui 5700.
E-mail: natycarmona04@hotmail.com

Trypanosoma cruzi is the etiologic agent of Chagas' disease. The objective of our work is the resolution by X-ray crystallography o the three-dimensional structure of *T. cruzi* proteins involved in mRNA cleavage and polyadenylation as a first step for rationa drug design. The main objective of the Chagas´ Disease Research Network is the search for protein targets in metabolic routes absen in the human host and common in trypanosomatids. The *T. cruz* proteins studied in this work are: TcFIP1-like (factor interacting with Pap1) and TcCPSF30 (cleavaje and polyadenylation facto 30). They were expressed in *E. coli* as fusion proteins with N terminal His-tag. We have overexpressed and purified them Refolding assays were realized for TcCPSF30. The refolded protein was used for crystallization and other structural studies TcFIP1-like was overexpressed in soluble form and was purifided Different bioinformatic studies showed structural particularitie with a high potential for drug design.

32.

ALLOPREGNANOLONE (ALLO) MODULATES THE ENZYMATIC ACTIVITY OF 20α-HSD UNDER DIFFERENT GONADAL HORMONES CONDITIONS

Casas S, Giuliani F, Yunes R, Cabrera R, Laconi M.
IMBECU, CONICET, FCM UNCuyo, Centro de Investigaciones Superiores Universidad de Mendoza.

The enzyme 20 α-hydroxysteroid dehydrogenase (20α-HSD) catabolizes progesterone into a biologically inactive steroid, 20α-dihydroprogesterone (20α-HP). In the corpora lutea of rats, 20α-HSD is involved in functional luteolysis. In the present study, we investigated the modulatory activity of Allopregnanolone (Allo) on the 20α-HSD activity in estrous cycle rats. We used adult female Spague-Dawley rats. After 7 days of intracerebroventricular (icv) surgeon, samples of vaginal smears were taken daily from 09.00 to 10.00. Rats at estrous (E) and diestous 1 (D1) were selected and inyected icv with Allo 0.6 μM or KRBG as control. The injection of Allo caused a significant decrease on 20α-HSD activity on HMB (p<0.05) in rats at estrous. While, Allo did not modify the enzymatic activity in the ovary of the same animals. On the other hand, on D1, Allo could not modify the 20α-HSD activity neither in HMB nor in ovary. In our previous reports we found that Allo inhibit the luteal regresion (3β-HSD activity and histological evidence). The current results on 20α-HSD activity in ovary and in HMB confirm our previous finding suggesting that the neurosteroid Allo could modify the 20α-HSD activity on estrous cycle dependent manner. Finally, these results confirm the potencial role of Allo as luteal regresion inhibitor in female rats.

33.

EFFECTS OF THE SALINE AND OSMOTIC STRESS IN THE GERMINATION OF THREE VARIETIES OF ALFALFA *(Medicago sativa*)

Castro Luna A, Ruiz M, Quiroga M, Pedranzani H.
Laboratorio de Fisiología Vegetal. F.I.C.E.S. PROICO 50107. Ciencia y Técnica. UNSL. E-mail: hepedra@fices.unsl.edu.ar

Alfalfa (*Medicago sativa)* is a forage of great use in semiarid zones and there exist varieties used by its tolerance to drought and salinity. The aim was to study the effects of the water and saline stress, in the germination percentage (G) of three varieties of alfalfa *(Medicago sativa)* of major use in San Luís. 100 seeds of every variety: 1-DK166 *(Dekalb);* 2-*Verdor (Barenbrug-Palaversich)* and 3-*Saline PV (Palo verde)* were sowed and watered with NaCl's (50mM, 100 mm and 200mM) and PEG's (0,5MPa,-1 MPa and-1,5Mpa) solution. They germinated in darkness and 25ºC of temperature. To 7 days the variety 1 and 2 (G) diminished significantly with 100 mM of NaCl (from 89% to 54% and from 70 to 52%) and the variety 3 did it with 150 mM of NaCl (from 83% to 40%), showed its tolerance.
In the treatment with PEG 6000, to osmotic pressures of 1Mpa the variety 3 diminished significantly its G in 31% respect to control and the varieties 2 and 3 with 1,5Mpa, they did it in 67%. In both treatments, the variety *3-Salina PV* was the most tolerant and the other two had similar sensibility to the salinity and drought.

34.

PHARMACOLOGICAL EFFECT OF BENZOPHENONE 1 AND 3 ORALLY ADMINISTERED TO MICE

Castro GT, Bianco MR, Juarez AO, Blanco SE.
Fac Qca Bqca y Fcia, Univ Nac San Luis, Chacabuco y Pedernera, San Luis 5700. E-mail: tcastro@unsl.edu.ar

The widespread use of BZ-type UV filters as photostabilizers in cosmetics has led to the exposure of millions of consumers on a daily basis. In previous studies we showed the dermal effect of different doses of BZ-1 administered to rats (Biocell 27 (1), 2003). The aim of this assay is to study the pharmacological effect of BZ-1 and BZ-3 administered orally to mice in order to assess safety health purposes. Rockland mice (25-30g) both sexes were separated in groups of 6 animal/cage with free access to food and water under a 12 h light-dark cycle (25ºC). BZ-1 and BZ-3 (Sigma Co.) were dissolved in corn oil and administered orally to mice at doses of 40 and 100 mg/kg, controls received corn oil only. Mice locomotor activity and death data were recorded, after 72h they were sacrificed under anesthesia obtaining blood samples prior to death for hematological (WBC, RBC, %HGb, MCV, MCH and MCHC), clinical chemistry studies (urea, creatinine, calcium, GOT; GPT, CK and LDH) and weight organs(liver, heart, lung, kidney, and spleen) values. Data were evaluated using ANOVA followed by Tukey´s. No deaths records were found, mice exhibited normal locomotor activity, weight organs, clinical and chemistry hematology parameters were no affected respect controls, only BZ-3 (100 mg/kg) treated mice ($p<0.05$) showed spleen weight affected. Based on this data we suggest that BZ1 is safer than BZ3 at the orally doses here assayed according to other cosmetic reports.

35.

INVOLVEMENT OF A CATECHOLAMINERGIC AGENT IN THE INFERIOR MESENTERIC GANGLION ON ANDROSTE-NEDIONE RELEASE USING AN *EX VIVO* SYSTEM

Cavicchia JC, Fóscolo MR, Palmada N, Sosa Z[1].
IHEM. Cuyo Medical School, Cuyo University, Mendoza and [1]LABIR, San Luis University. E-mail: jccavic@ fcm.uncu.edu.ar

The neural influence on testicular physiology is exerted both, through hypothalamic factors that control adenohypophysial hormone release and via the sympathetic ganglia. The nervous fibres which arrive from the inferior mesenteric plexus (IMG) follow the inferior spermatic nerve (ISN) and penetrate the testis though the epididymis. The aim of the present experiments was to found whether the catecholaminergic agents, norepinephrine (NE), and alfa (phentolamine) or beta (propranolol) antagonists administered in the IMG could modify the release of androstenedione (A_2) from the testis of an *ex vivo* system made up of the IMG and the testis interconnected by the ISN. The incubation system consists in a thermostatic bath in standard conditions. When NE was added to the IMG the A_2 release was measured by RIA. Samples were obtained at standard times. The experimental group was obtained adding NE or the antagonists, phentolamine or propranolol at 10^{-6}M concentration. The agonist decreases A_2 when administered in the left IMG ($p<0.001$) but increase it when administered in the right ganglion ($p<0.001$). Propranolol, when administered in the left IMG decrease A2 ($p<0.001$) but phentolamine increases A_2 ($p<0.05$). In conclusion 1) This *ex-vivo* system is an appropriate model to study catecholaminergic agent influences on hormonal release from the testis 2) The present behavior would indicate the presence of A_2 receptors in the IMG.

36.

ANTIMICROBIAL SUSCEPTIBILITY OF S*almonella* ENTERITIDIS ISOLATED FROM CHICKEN CARCASSES IN SAN LUIS CITY

Ciacera C, Placci ME, Lazarte V, Escudero ME, Favier GI, Guzman AMS.
Microbiología General, Fac. de Qca., Bioqca. y Fcia. UNSL. E-mail: gifavier@unsl.edu.ar

Humans are commonly infected with *Salmonella* through consumption of contaminated food. The clinical signs include fever, nausea, vomiting, abdominal pain and diarrhea. Appropriate antibiotic therapy is necessary to combat this bacteria and prevent their forms of resistance. The antimicrobial susceptibility of *Salmonella* Enteritidis strains isolated from chicken carcasses in San Luis City was examined. Sixteen isolates (from a total one hundred and twenty chicken sample) were tested for sensitivity to eleven antimicrobial agents using the Kirby-Bauer disk diffusion test. All the strains were susceptible to chloramphenicol, gentamycin, ciprofloxacin, neomicyn, kanamycin and resistant to furazolidone. In addition, an important antimicrobial activity of ampicillin, colistin, nalidixic acid, tetracycline and fosfomycin was observed. *Salmonella* Enteritidis strains isolated in this study were susceptible to most of the antimicrobial agents used clinically and showed a response patter that resembles those reported by other authors. Our local susceptibility data might assist clinicians in choosing appropriate therapy for patients.

37.

ALTITUDINAL DISTRIBUTION AND WATER PARAMETERS RELATED TO THE PRESENCE OF THE SNAIL *Lymnaea viator* IN MENDOZA PROVINCE, ARGENTINA

Ciocco N[1,2], Masi C[1], Scheibler E[1].
[1]CCT-CONICET Mendoza, cc 507, 5500 Mendoza; [2]ICB, UNCuyo.
E-mail: nciocco@lab.cricyt.edu.ar

Lymnaea viator is an intermediate host of the trematode *Fasciola hepatica* that causes *fascioliasis*, a parasitic disease endemic to Mendoza Province (MP) that affects many mammals, humans included. It has been suggested that altitude and associated water parameters are natural barriers for dispersal of this snail, conditioning endemic areas. An altitude range of 1526-2638 m and water parameters (e.g. conductivity range: 96-721 µS cm^{-1}) were reported for "Lymnaeids" of MP, and their absence from suitable lowland biotopes was pointed out. Other authors cited *L. viator* for localities of MP at around 700 m a.s.l. The goal is to present new data on the altitudinal distribution of this snail and on water parameters related to its presence in MP. Benthos and pleuston samples from 23 localities in Mendoza (11 sites), Llancanelo (10 sites) and Grande (2 sites) basins were studied. Considering all localities prospected, ranges of altitude (A), conductivity (C), water temperature (WT), oxygen saturation (OS) and pH were 630-2981 m a.s.l., 115-19520 µS cm^{-1}, 2.9-30.8ºC, 3.87-100% and 6.5-9.7 respectively. *L. viator* (species identified by conchology) was found at 12 sites (3 Llancanelo, 2 Grande, 7 Mendoza), including Laguna del Viborón (630 m a.s.l., Maipú) and Quebrada de Vacas (Aconcagua Park, 2700 m.). Ranges of C, WT, OS and pH where
L. viator occurred were 151-2420 µS cm^{-1}, 5.3-25.5ºC, 31.9-100% and 6.8-8.1, respectively. Our data enhance the altitudinal distribution and environmental tolerance ranges of *L. viator* in MP.

38.

SCREENING FOR INHIBITORS WHICH REGULATE THE SPERM SERIN PROTEASES

Clementi M, Boarelli P, Monclus M, Fornés M, Césari A.
LIAM, IHEM, Fac. Cs. Médicas, UNCuyo and IIB, UNMdP.
E-mail: marisa_clementi@yahoo.com.ar

The regulation of serin protease activity in spermatozoa was attributed to inhibitors found in seminal plasma, synthesized in accessory glands that play an important role on sperm capacitation. In the present work, we sought for serine protease inhibitors in bovine seminal plasma (BSP) and murine accessory glands. We obtained protein extracts from BSP and accessory glands from CF-1 mice. Small molecules were selected by filtration membranes (30kDa). The inhibitors were detected by reverse zymography and quantified by their ability to reduce trypsin activity over azocasein, considering as 100% the inhibitory activity of SBTI. BSP showed the highest inhibitory activity (85%). Seminal vesicle (VS) and prostate (P) had the highest inhibitory activity (98-96% respectively), whereas epididymis (E) and testis (T) had a significantly lower activity compared to the control (SBTI): 14,5 and 7% ($p<0,05$), respectively. The reverse zymography developed 1 protein below 30 kDa in each sample analysed and curiously, 1-2 bands between 26-66 kDa in most of them, except the SV. In conclusion, we detected and preliminary characterized serin protease inhibitors in PSB and accessory glands that potentially regulate sperm serine proteases. MS identification of these proteins will be the next step.

39.

INCREASE IN PHOTOPROTECTIVE AND PHOTOSYNTHETIC PIGMENTS IN *Arabidopsis thaliana* SEEDLINGS INDUCED BY *Azospirillum brasilense* Sp 245

Cohen AC, Moreno D, Bottini R, Piccoli PN.
Cátedra de Qca. Org y Biol, Fac de Ciencias Agrarias-CONICET, Universidad Nacional de Cuyo, Argentina.
E-mail: acohen@fca.uncu.edu.ar

Azospirilllum brasilense are plant growth promoter bacteria (PGPB) that increase grain yield in cereals and general plant growth in different species. In this work the content of photoprotective and photosynthetic pigments in *A. thaliana* plants inoculated or not with *A. brasilense* were analized. Seven days-old *A. thaliana* plants inoculated with 10 uL 10^6 CFU.mL^{-1} of *A. brasilense* or water (control) were cultivated in modified MS medium under a photoperiod of 16 h of light and 8 h of darkness. After 30 days, the levels of chlorophyll a, b and carotenes and other parameters as leaf area (LA), root length (RL), root and shoot fresh weight (RFW, SFW) of inoculated plants and controls were assessed. The pigments levels were enhanced in inoculated plants along with augmented values of LA, RL, RFW and SFW. This result suggest that among the mechanism by which *Azospirillum* improve plant growth by increasing photoprotective and photosynthetic pigments.

40.

LIPID COMPOSITION OF MONONUCLEAR AND POLYMORPHONUCLEAR LEUKOCYTES IN HYPOTHYROID RATS

Coria MJ, Gimenez MS.
IMIBIO-CONICET-UNSL. E-mail: marie_449@yahoo.com.ar

Thyroid hormones are very important regulator of lipid metabolism. Lipid of monocytes (MONO) and polymorphonuclear (PMN) membranes are a major source of mediators of inflammation. The aim of our study was to investigate the influence of hypothyroidism induced by propylthiouracil (PTU) on lipid composition of MONO and PMN leukocytes. Adult Wistar female rats were ramdomly separated in two groups: one received PTU-free drinking water (Control group) while the other received 0.1% PTU in drinking water during 30 days (hypothyroid group, HT). Afterwards the rats were sacrificed and blood samples were taken to determine serum levels of total cholesterol (Col), HDL-cholesterol (HDL-col) and triglycerides (TG). Levels of LDL-cholesterol (LDL-col) were calculated with the Friedwald formula. PMN and MONO were isolated from blood by gradient density to determine them in phospholipids, cholesterol and total lipids. We found the LDL-Col and Col serum levels were increased and TG levels were lower in HT group .The HDL-Col levels did not differ. There were no significant differences in the total lipid content or phospholipids in MONO and PMN, however cholesterol levels in both leukocytes of the HT group were significantly lower. According to our results, the hypothyroidism modifies lipid composition of PMN and MONO leukocytes, could possibly affect any of its functions.

41.

BIODIVERSITY OF BIRDS IN LAS FLORES GULLY, CAUCETE, SAN JUAN

Cortez R, Marinero N, Quiroga L, Sanabria E.
Departamento de Biología, FCEFyN-UNSJ.
E-mail: marinero.veronica@gmail.com

The biodiversity of birds in Pie de Palo Mountain is insufficiently known. The objective to the present work is described the biodiversity and riches of birds. We sample in Las Flores gully, in January, August and October of 2008. The method for collected the data was transects and sampled point. Then calculate the Shannon – Wiener index and Jaccard´s similitude index for comparate between months. The number of species of birds in this work was 38 in 19 families. The Shannon – Whiner index and riches for each month was: 3.17 and 24 for January; 2.77 and 16 for August, 2.99 and 20 for October, respectively. The months, October and January, form one group in the cluster analysis with 37 percent of similitude, and August is more distant with 28 percent of similitude with the first group. The categorization for IUCN of birds of Las Flores gully is: *Harpyhaliaetus coronatus* (Threatened), *Vultur gryphus* (Near Threatened), *Progne modesta* (Vulnerable D1) and the others species was considerate as Least Concern. This work is the first contribution to the know of the birds biodiversity in Pie de Palo mountain.

42.

ENVIRONMENTAL CHARACTERISTICS OF ANDEAN SITES WITH LYMNAEID SNAILS, INTERMEDIATE HOST OF *Fasciola hepatica*, IN NEUQUÉN, ARGENTINA

Cuervo P[1,2], Deis E[2], Sidoti L[2], Mera y Sierra R[1,2], Artigas P[3]
[1]Fac Cs Medicas UNCuyo; [2]Fac de Cs Veterinarias UMAZA; [3]Depto. Parasitología, Universidad de Valencia, España.
E-mail: pablofcuervo@hotmail.com

Lymnaeid snails are the intermediate hosts of fasciolosis, a zoonotic parasitic disease considered of great importance and endemic in cattle of Neuquen province. The objective is to describe the main environmental characteristics from 8 sampling sites with confirmed presence of lymnaeid snails. All sites were located in Andean zones of Neuquen province, in summer pastures, with a mean altitude of 1221 masl. Snails were found mainly in flowing streams (5/8), with a slight current. The substrate was composed by mud, in every site. Sun exposure was absolute (8/8). Mean water temperature was 23,23 ºC (±3,64), and mean air temperature 29,95 ºC (±2,7). Gramineous vegetation was present in every case, while arborous only in 4/8, but quite far from sampling sites; this may be related with sun exposure. Aquatic vegetation was also present in every case, being watercress the most common type (7/8). Cattle were present in almost every place, being composed by bovines (6/7), goats (4/7) and sheep (4/7). Lymnaeid snails are present in good quality waters, with slow currents, and high sun exposure. The presence of aquatic vegetation and cattle in every site is remarkable since both are relevant factors in the epidemiology of the disease.

43.

CLIMATIC CHARACTERISTICS OF ANDEAN SITES WITH LYMNAEID SNAILS, INTERMEDIATE HOST OF *Fasciola hepatica*, IN NEUQUÉN, ARGENTINA

Cuervo P[1,2], Deis E[2], Sidoti L[2], Artigas P[3], Mera y Sierra R[1,2]
[1]Fac Cs Medicas UNCuyo; [2]Fac de Cs Veterinarias UMAZA; [3]Depto. Parasitología, Univ de Valencia, España.
E-mail: pablofcuervo@hotmail.com

Lymnaeid snails are the intermediate hosts of fascioliasis, a zoonotic parasitic disease, considered of great importance by WHO. The objective is to describe the main climatic characteristics that may affect the presence of the lymnaeid snails, based on GIS software and climatic database. The information was obtained from DIVA-GIS software (WordClim 1.4, 2,5 min resolution), taking into account 8 sites with confirmation of lymnaeid snails presence. The annual mean temperature is 8.15ºC (±0.93), with a mean annual temperature range of 25.24ºC (±1.35), and a mean monthly range of 14.26ºC (±0.93). The mean maximum temperature is registered in January, 23.7ºC (±1.37), while the mean minimum temperature is registered in September, -1.41ºC (±0.86). The mean annual precipitation is 896.3 mm^3 (±177.92), being January the driest month (mean 19.13 mm^3, ±3.40), and June the wettest one (164.38 mm^3, ±31.27). The climate on these areas is considered moderate, but shows great annual and monthly variations , with low temperatures in winter. These features remark the extreme adaptation capability of this kind of snails, allowing them to inhabit inhospitable sites such as the southern Andes.

44.

INFANT BOTULISM: BOTULINAL NEUROTOXIN PRODUCING CLOSTRIDIA (BNPC) SPORES IN HONEY AS A RISK FACTOR

de Jong LIT, Mejiba D, Fernández RA.
Área Microbiología. Departamento Patología. Facultad de Ciencias Médicas. UNCuyo. E-mail: litdejong@yahoo.com

Infant botulism (IB), the most common form of human botulism, is caused by intestinal colonization by BNPC spores in infants less than one year of age. Honey feeding has been identified as a risk factor for IB in the world. Between 1982 and 2008 have been reported 123 IB cases in Mendoza (Argentina). Only 5 of them were associated with comsuption of honey, and no BNPC spores have been isolated from the remainder honey. Thirty honey samples were randomly obtained from commercially available and domestic apiaries in diferent places of Mendoza and Neuquén, two provinces with high prevalence of IB in Argentina. For the presence of BNPC spores, the samples were subjected to dilution 1:7,5 with peptone 1% in water, and cultivated in chopped meat medium with and without heat shock (80ºC, 10 min). After 10 days at 31ºC, toxins were detected using the mouse bioassay. Only two samples (6,6%) were positive for BNPC. It was isolated BNPC type A in one sample, and 2 strains (A and F) in the other. These results suggest that honey consumption is not a high risk factor. In arid regions, the environmental dust could be the most important source of BNPC spores. Nevertheless, the WHO and FDA recommendation that infants receive no honey until their firts birthday is an important rule to prevent IB.

45.

EFFECTS OF ABA TREATMENT AND WATER STRESS ON ACCUMULATION OF POLYPHENOLS ON GRAPE SKIN AND WINE FOR *Vitis vinifera* L.

Deis L, Bottini R, Silva MF, Cavagnaro JB.
CONICET-FCA, UNCuyo.

Wines are a rich source of polyphenols (**PP**) (anthocyanins, flavonols, flavanols.) The **PP** has potential benefits for human health. The effect of water stress (**S**) berry ripening and consequently the biosynthesis of **PP** depends on the level of **S** the stage of application and the hormonal status. The objective was to determine the effects of exogenous ABA supply and **S** treatments on phenolic accumulation during two consecutive vintages in a field crop of *Vitis vinifera* L. cv. Cabernet-Sauvignon. The study was carried out in Mendoza Province, Argentina. Two levels of water status treatments were applied: irrigated (**W**) and water stress (**S**). ABA treatments were performed at three levels, **A1**: first year treatment, **A2**: second year treatment, **C**: control treatment, without ABA. The results clearly indicate that exogenous ABA supply produce an enhancement on PP accumulation in grapes without affecting parameters such as yield, foliar area, soluble solids and pH. Those increments were reflected in wine. Irrigated plants subjected to ABA treatments gave higher levels of Total Phenolic Index and anthocyanin contents than stressed plants. The content of malvidin, quercetin, catequin and resveratrol showed differences as affected by **S** or by **ABA**.

46.

EFFECTS OF TEMPERATURE AND ABA ON POLIPHENOLS CONCENTRATION IN GRAPE BERRIES *IN VITRO* (*Vitis vinifera* L.)

Deis L, Silva MF, Cavagnaro JB.
CONICET - FCA, UNCuyo - PROBIOL.
E-mail: ldeis@fca.uncu.edu.ar

The synthesis of anthocyanins in grape berries depends on different environmental factors. The temperature is the main climatic factor. Among hormonal factors, it has been shown that the application of abscisic acid (ABA) increases phenol synthesis. The trial was performed in vitro. Two factors were studied: ABA and temperature. Two doses of ABA were used (0.5 and $1g.L^{-1}$) and a control (C) and two temperatures, 15ºC and 25°C. Berries sampled 5 days before veraison and 23 and 48 days after veraison (DAV) were used. Three days before veraison, ABA did not increase anthocyanin concentration or TP (total phenolics). Twenty-three DAV an increase was observed in anthocyanin concentration (307% for $1g.L^{-1}$ and 207% for $0.5g.L^{-1}$) and TP (271% for $0.5g.L^{-1}$ and 428% for $1g.L^{-1}$ of ABA). At 25°C a higher concentration of anthocyanins was found in comparison with 15°C, but this was not the case of TP. At 48 DAV the effect was similar, except for the fact that the temperature increased TP as well. The berries with ABA at 15°C were able to overcome the low temperature factor and anthocyanin concentrations were higher than the 15°C C and the same as the 25°C control and anthocyanin concentration was higher than C at 15 and 25°C.

47.

COMPARISON OF TWO COPROLOGICAL METHODS FOR THE DIAGNOSIS OF FASCIOLOSIS IN ANIMALS

Deis E[1], Mera y Sierra RL[1,2], Marchéssi V[1], Gomez Rueda L[1], Artigas P[3]
[1]Fac de Cs Veterinarias, UMAZA; [2]Fac de Cs Medicas, UNCuyo; [3]Depto. Parasitología, Universidad de Valencia, España.
E-mail: rmera@fcm.uncu.edu.ar

Fasciolosis is an economically important disease of domestic livestock and also an expanding zoonosis. Coprological techniques are routinely used and are very helpful in the diagnosis of fasciolosis in livestock. Various sedimentation methods are used. Our objective is to compare two frequently used techniques, formalin ether sedimentation and Lumbreras rapid sedimentation. During 2005-2008, 623 samples of faeces were collected from sheep, goats, horses, cattle, swine, llamas and guanacos from different sites of Mendoza province. All samples where processed by two sedimentation techniques, Formalin-ether and Lumbreras rapid sedimentation. Samples where *F. hepatica* eggs were observed where considered as positive. In 170 animals, *F.hepatica* eggs where detected in faeces. Formalin ether technique detected 68 positive samples, whereas Lumbreras rapid sedimentation technique detected 156 positive samples. The proportion of positive samples obtained by Lumbreras rapid sedimentation was significantly higher than that by formalin ether sedimentation. χ^2 ($P<0.01$). Due to its sensitivity, low price and ease of performance Lumbreras Rapid sedimentation technique proves to be, in livestock, a useful technique superior to formalin ether sedimentation.

48.

HPLC PROFILES OF 5 SPECIES OF *Achyrocline* AND *Gnaphalium* (ASTERACEAE: GNAPHALIEAE)

Del Vitto LA, Gette MA, Petenatti M, Petenatti E, Marchevsky E.
Herbario/Proy. 8702 y 22Q/616, FQByF UNSL, Ej. de los Andes 950, D5700HHW San Luis, Argentina. E-mail: lvitto@unsl.edu.ar

Five Southamerican medicinal species (***Achyrocline satureioides*, *A. venosa*, *A. alata*, *Gnaphalium cheiranthifolium*** and ***G. gaudichaudianum***) known as "marcelas" or "macelas", are used popularly in the treatment of digestives and liver afections. They were characterized by HPLC profiles as a contribution to their quality control, because their scarce morphological differences. The extracts were obtained with a mixture of hexane:ethyl acetate (50: 50). Each flavonoid enriched fraction was analyzed in a HPLC Gilson with DAD detector at 290 and 362 nm, with a C18 column of 5 µm 4,6 x 125 mm with movable phase of phoshoric acid (0,16 M): methanol (47:53) at 0,6 ml/min. The chromatogram for each species was obtained, with significantly differences among them. So, the HPLC chromatograms can be used as "fingerprints" for the differentiation of these species, with the aim of contribute to an effective quality control both of the crude drugs and the involved herbal medicines.

49.
PHARMACOLOGICAL POSTCONDITIONING OF REPERFUSION ARRHYTHMIAS BY ASPIRIN

Diez ER, Lucero GA, Ponce Zumino AZ, Miatello RM.
Fac Cs Med, Univ Nac Cuyo, IMBECU-CONICET. Mendoza.
E-mail: diez.emiliano@fcm.uncu.edu.ar

Ventricular fibrillation may occur within seconds after restoration of blood flow to myocardium turned ischemic by a period of coronary occlusion (reperfusion). The mechanisms of the beneficial cardiovascular effects of acetylsalicylic acid (ASA, aspirin) therapy are not completely understood. In this study, we tested the hypothesis that ASA treatment could reduce reperfusion arrhythmias acting during ischemia and/or during early reperfusion by an antiplatelet independent mechanism. We evaluate the effects of ASA 0.14mM perfused at the beginning of the experiment or only for 3 min after 10 min of regional ischemia in isolated rat hearts. ECG and membrane potential were synchronously recorded. ASA did not change any electrophysiological properties until reperfusion. Both ASA treatments reduce reperfusion ventricular tachycardia and/or fibrillation. Action potential duration was prolonged after ASA postconditioning when compared with continuous ASA perfusion, suggesting a modification only at reperfusion. The conclusions from this study were that acute aspirin treatment, infused at an early reperfusion period has similar beneficial actions than a continuous infusion of this compound and that this treatment only modify electrophysiological variables at reperfusion.

50.
TUMORS GINGIVAL

Dorati P, Giménez J, Baudo J, Micinquevich S.
Patología y Clínica Estomatológica. Facultad de Odontología de La Plata.

Under the old name of epulis, are grouped different gingival enlargement, of a different etiology: for trauma, reactive and hormonal drugs, infectious and so on. The aim of this paper is to present a series of 10 clinical cases of gingival lesions of different etiologies in order to make a correct diagnosis, using the main methods of diagnosis and accessories, to arrive at the diagnosis of certainty that would allow therapeutic implement the correct each case. The terminology used to describe the gingival lesions often confusing, very diverse and nonspecific. It is important to conduct a detailed clinical description of the injury, and determination of its time evolution and the etiological factor, as the greater or lesser chronicity of the pathology will favor a greater component of fibrous tissue or vascular. On the other hand, the histopathological study of all these injuries is vital, although its appearance is benign, because the diagnosis of certainty what can only determine the histology. Any gingival hyperplastic lesions to be treated by removing the etiological factor and remove the lesion. Following this pattern should be no recurrence. The only injury described in the bibliography that presents a greater tendency to relapse is the Giant cell hyperplasia (10%), so it is advisable to widen the margins of the excision of the lesion.

51.
ULTRASTRUCTURE IN ORAL SQUAMOUSS CELLS CARCINOMAS

Dorati P, Micinquevich S, Mayocchi K, Gomez M.
Cátedra de Patología y Clínica Estomatológica. Facultad de Odontología de La Plata. UNLP. E-mail: Susmic2003@yahoo.com

The squamous cell carcinoma is one of the most common disorders emerged at the epithelium of the oral mucosal. In its genesis many factors such as snuff, alcohol, trauma and viruses among others.With the intention to investigate changes at the epithelial cells of the oral mucosa with TEM (Transmission Electron Microscopy) it was used as material cut files for carcinomas of oral mucosa with HPV infection of high risk and as a method MET, practiced in the Central Electron Microscopy of the Faculty of Veterinary UNLP. Cuts were made for selecting areas to study and ultra cuts for MET. The observation revealed: nuclei with carioteca interrupted, condensed chromatin in lumps against it and scattered around the nucleoli. The cytoplasm disrupted by nuclear dysfunction. Bilobulade nuclear vacuolization citoplasmatic organoides and disorganized. Viral particles. Absence of desmosomes and escotadura indicative of nuclear fragmentation. These data would characterize the squamous cell carcinoma of oral mucosa from the ultrastructural point of view not systematically addressed.

52.
SPECIALIZATION REINFORCEMENT IN THE MICROSTRUCTURE OF THE ENAMEL

Durso G, Batista S, Tanevitch A, Abal A, Anselmino C.
Fac Odont, Univ Nac La Plata.
E-mail: gracieladurso@yahoo.com.ar

Prisms decussations in layer or bundles helps to stop cracks and enhances the resistance to tensile strength. The purpose of this our work was to identify specialization reinforcement in the microstructure of the enamel in longitudinal plane of crowns of 20 permanent humans teeth. Sections were embedded in resin, grinded and etched with acid and SEM observed. The micrographs were obtained in the cervical, middle and incisal zones of the free faces and the cusps near the dentine and to the outer surface in posterior teeth. In incisives and in canines, there is evidence of enamel with Hunter Schreger bands (HSB) in the free faces in the incisal and medial thirds, which decreases towards the cervical. In the cervical zone there are prism intercrosses that do not quite form bands, this being more evident in the canines. HSB enamel occupying the thickest portion of the enamel from the amelodentinal boundary and the radial enamel adjacent to the outer surface. Differences of HSB thickness in the enamel were found, being higher in the incisives. In premolar and molar teeth irregular enamel was found in the cusps near the dentine and the radial enamel to the outer surface with prisms run parallel and end perpendicular to the outer surface. Specialization reinforcement lie in inner third of enamel, the HSB enamel is the most representative and the impact zones of occlusal forces show of enamel irregular.

53.

LEVOFLOXACIN PLASMA AND MILK PHARMACOKINETICS IN LACTATING GOATS

Errecalde CA, Prieto GF, Mañas F, Ludueña R, García Ovando H.
Farmacología, Depto Clínica Animal, Fac Agr Vet, Univ Nac Río Cuarto, Río Cuarto 5800, Córdoba.
E-mail: cerrecalde@ayv.unrc.edu.ar

Levofloxacin is a fluoroquinolone with broad antibacterial spectrum against Gram positive (aerobia and anaerobia) and Gram negative bacterias and mycoplasma. The aim of the present study was to determine blood and milk pharmacokinetic profiles of levofloxacin, following intravenous single dose, 5 $mg.kg^{-1}$ to healthy and lactating goats (n=6). Blood and milk samples were collected at predetermined times over a 24 h period. Plasma and milk concentrations of levofloxacin was determined by reversed phase high performance liquid chromatography with fluorescence detector. A non-compartmental pharmacokinetic data analysis program (PK-Solution 2.0) was used. Principal pharmacokinetic parameters for intravenous route were: $t_{1/2\,\beta}$= 11.31 ± 5.24 h; Total systemic clearance = 2.24 ± 0.29 $mL.min^{-1}.kg^{-1}$; Vdarea = 2.11 ± 0.13 $L.kg^{-1}$; Area under curve (AUC∞)= 39.46 ± 2.63µg.mL^{-1}h. The value of Vd > 1 $L.kg^{-1}$, indicates good capacity of tisular diffusion, like to other fluoroquinolones and that could allow the treatment of bacterial pathologies with different localization. The values of AUC obtained with this dosage, not guarantee the achievement of clinical success, since the value of the index of the predictor of clinical effectiveness $AUC/\boldsymbol{MIC_{90}}$ is much smaller than the conventional value of 125. So the dose should be corrected. Considering the maximal residues levels in bovine milk (MRL) established in 100 $mgkg^{-1}$ and kinetic values, the withdrawal milk time was 117.2 h with a confidence level of 99%.

54.

DANOFLOXACIN PLASMA PHARMACOKINETICS IN GOATS

Errecalde CA, Prieto GF, Mañas F, Genesy JB, García Ovando H.
Farmacología, Depto Clínica Animal, Fac Agr Vet, Univ Nac Río Cuarto, Río Cuarto 5800 Cba. E-mail: cerrecalde@ayv.unrc.edu.ar

Danofloxacin is a third generation fluoroquinolone developed for veterinary use only, with broad antibacterial spectrum against Gram positive and Gram negative bacterias and mycoplasma. The aim of the present study was to determine the plasma pharmacokinetics of danofloxacin 2.5%, following intravenous and intramuscular single dose, 1.25$mg.kg^{-1}$ to healthy goats (n=6) in a crossover design. Blood samples were collected via jugular venipuncture at predetermined times over a 24 h period. Plasma concentrations of danofloxacin was determined by reversed-phase high performance liquid chromatography with fluorescence detector. A non-compartmental pharmacokinetic data analysis program (PK-Solution 2.0) was used. Principal pharmacokinetic parameters for intravenous route were: $t_{1/2\,\beta}$=2.67 ± 0.22 h; Mean residence time (MRT)=3.08 ± 0.41 h; Total systemic clearance = 14.0 ± 1.31 $mL.min^{-1}.kg^{-1}$; Vd_{area}= 3.23 ± 0.22 $L.kg^{-1}$; Area under curve (AUC∞)= 1.49 ± 0.14 µg.mL^{-1}h. These values are not significantly different from those obtained by intramuscular route. The value of Vd > 1 $L.kg^{-1}$, indicates good capacity of tisular diffusion, like to other fluoroquinolones and that could allow the treatment of bacterial pathologies with different localization. The values of AUC obtained, not guarantee the achievement of clinical success, since the value of the index of the predictor of clinical effectiveness AUC/MIC_{90} is much smaller than the conventional value of 125. So the dose should be corrected.

55.

LEVOFLOXACIN PLASMA PHARMACOKINETICS IN CALVES

Errecalde CA, Prieto GF, Mañas F, Ludueña R, García Ovando H.
Farmacología, Depto Clínica Animal, Fac Agr Vet, Univ Nac Río Cuarto, Río Cuarto 5800 Cba. E-mail: cerrecalde@ayv.unrc.edu.ar

Levofloxacin is a fluoroquinolone with broad antibacterial spectrum against Gram positive (aerobia and anaerobia) and Gram negative bacterias and mycoplasma. The aim of the present study was to determine the plasma pharmacokinetics of levofloxacin 2.5%, following intravenous and oral single dose, 5 $mg.kg^{-1}$ to healthy calves (n=5) in a crossover design. Blood samples were collected via jugular venipuncture at predetermined times over a 24 h period. Plasma concentrations of levofloxacin was determined by reversed-phase high performance liquid chromatography with fluorescence detector. A non-compartmental pharmaco kinetic data analysis program (PK-Solution 2.0) was used. Principal pharmacokinetic parameters for intravenous route were: $t_{1/2\,\beta}$= 7.1 ± 1.37 h; Mean residence time (MRT)=5.65 ± 0.58 h; Total systemic clearance = 3.01 ± 0.68 $mL.min^{-1}.kg^{-1}$; Vd_{area} = 1.9 ± 0.69 $L.kg^{-1}$; Area under curve (AUC∞)= 28.85 ± 6.97 µg.mL^{-1}h. These values are significantly lower than those obtained by oral route. Oral bioavailability was 48 ± 17%. The value of Vd > 1 $L.kg^{-1}$, indicates good capacity of tisular diffusion, like to other fluoroquinolones and that could allow the treatment of bacterial pathologies with different localization. The values of AUC obtained with this dosage, not guarantee the achievement of clinical success, since the value of the index of the predictor of clinical effectiveness $AUC/\boldsymbol{MIC_{90}}$ is much smaller than the conventional value of 125. So the dose should be corrected.

56.

CEFQUINOME PLASMA AND SYNOVIAL DISPOSITION KINETICS IN EQUINES

Errecalde CA, Prieto GF, Mañas F, Ludueña R, Litterio N, Boggio JC, García Ovando H.
Farmacología, Depto Clínica Animal, Fac Agr Vet Univ Nac Río Cuarto, Río Cuarto 5800 Cba. E-mail: cerrecalde@ayv.unrc.edu.ar

Cefquinome is a fourth generation cephalosporine, developed for veterinary use only, with broad antibacterial spectrum and betalactamase resistant The aim of the present study was to determine the plasma pharmacokinetics and the synovial levels of cefquinome, following intravenous single dose, 1.0 $mg.kg^{-1}$ to healthy female horses (n=5). Blood samples were collected via jugular venipuncture at predetermined times over a 24 h period. Plasma concentrations of cefquinome was determined using an validated microbiological method of diffusion in agar, with *Providencia alcalifaciens*. A non-compartmental pharmaco kinetic data analysis program (PK-Solution 2.0) was used. Principal pharmacokinetic parameters for intravenous route were: $t_{1/2\,\beta}$=1.01 ± 0.35 h; Mean residence time (MRT)=1.48 ± 0.51 h; Total systemic clearance = 2.94 ± 0.87 $mL.min^{-1}.kg^{-1}$; Vd_{area}= 0.25 ± 0.3 $L.kg^{-1}$; Area under curve (AUC∞)= 5.83 ± 1.67 µg.mL^{-1}h.. The value of Vd < 1 $L.kg^{-1}$, indicates preferential distribution to the interstitial space, like to other betalactamic antibiotics. The pharmacokinetic results obtained in plasma indicates the implementation of an intravenous maintenance dose of 2.0 mg^{-1}kg every 8 hours to keep levels that exceed the CIM_{90} for microorganisms involved during the dosing interval.

57.

EFFECTS OF ADRENERGIC AND CHOLINERGIC STIMULATION ON RELEASE OF OVARIAN HORMONES AND NITRIC OXIDE ON THE FIRST DIESTROUS OF THE RAT

Escudero C, Gordillo M, Delgado SM, Carrizo D, Rastrilla AM.
Lab. Biol. de la Reproducción. Fac. Qca, Bqca.y Farmacia. Univ Nac. de San Luis. 5700 San Luis. E-mail: sdelgado@unsl.edu.ar

The peripheral nervous system is involved with the endocrine and immune system in ovarian physiology. The purpose of this work was to study the effect of norepinephrine (NE) and acetylcholine (Ach) in celiac ganglion (CG) on the ovarian release of progesterone (P), androstenedione (A_2), oestradiol (E_2) and nitric oxide (NO) during the first diestrous in rat. We used the *ex vivo* CG-superior ovarian nerve-ovary system. The working groups were a-Control: incubation in metabolic bath with Krebs-Ringer-bicarbonate pH 7.4, b and c NE and Ach 10^{-6} M in CG respectively. Aliquots were taken from ovarian compartments at 15, 30, 60 and 120 min. P, A_2 and E_2 was measured by RIA and NO by Griess reaction. Was utilized ANOVA 1 followed by Tuckey test with a significance of $p<0,05$. NE decreased P release at 30 min ($p<0.001$) and increased at 60 ($p<0.01$) and 120 min ($p<0.001$). Ach decreased P at 30 ($p<0.001$) and 60 min ($p<0.005$), followed by an increase at 120 min ($p<0.001$). NE increased A2 at every study times ($p<0.001$) and Ach caused an inhibitory effect at 15, 60 and 120 min. ($p<0.001$). NE increased E_2 levels at all times ($p<0.001$) and Ach only at 15 and 30 min ($p<0.01$). Levels of NO were lower with both neurotransmitters at all times. The results showed a greatest adrenergic than cholinergic ganglionic participation in ovarian steroidogenesis, which together with the inhibitory effect on NO favoring folliculogenesis prior to ovulation.

58.

SIMILITARIES AND DIFFERENCES IN PSYCHOTROPICS DRUGS USE IN DAMSU AND CAJA FORENSE

Fader E, Kaiser L, Sacchi O, Rodríguez C, Riestra E, Rodríguez Echandía E.
UFURM. Area of Pharmacology. FCM. UNCuyo.
E-mail: lukaiser@yahoo.com

The use of psychotropic drugs was analyzed in the DAMSU´s Pharmacy (population economic average and moderate resources) and Caja Forense´s pharmacies (economic high resources) during 2004/2006. The data were obtained throught the DDD/1000/day, by means of an observational, descriptive and retrospective study. The consumption of psychotropic drugs in DAMSU, which is high, is less than Caja Forense that shows a high level of benzodiazepine (BZD) and anti-depresive (ADP) consumption. Nevertheless, in both Social Health Departments the DDD/1000/day of ADP are below the valuations of prevalency of affective disorders for the APA (1980), being the same as the neuroleptics. Analizing only to the use of BZD during 2005, we observed that the DDD/1000/day in DAMSU is 67,6 and in Caja Forense is 114,2, which means that there were 1708 of the affiliates to DAMSU and 2166 of the affiliates of Caja Forense who consumed BZD per day. Our results in the analysis of the use of psychotropic drugs in these two Social Health Departments allowed us to determine the use form of psychotropic drugs in these Institutions (Drugepidemiology) and to detect the relationship between the risk-benefit-cost (Drugeconomy) of the use of these medicines. Simultaneously, these results allowed an immediate transference of the data to the Social Health Departments to promote the Rational use of the medicine.

59.

CONSUMPTION OF BDZ IN 3 CAPS AND 2 SOCIA HEALTH DEPARTMENTS FROM MENDOZA

Fader E, Kaiser L, Riestra E, Rodríguez C, Rodríguez Echandía E.
UFURM. Area of Pharmacology. FCM. UNCuyo.
E-mail: lukaiser@yahoo.com

By means of an observational, retrospective and comparative study of the use of benzodiazepine (BDZ) in 3 Centers of Primary Attention in Mendoza (CAP): Capital, Las Heras and Lujan o Cuyo; and 2 Social Health Departments (Social Health Dept) DAMSU and Caja Forense, we quantified the DDD (daily defined dose)/1000/day during 2007. The data were obtained from each Institution using the WHO methodology through an EPI INFO program recommended for the Studies of use of medicines. Th DDD/1000/day of alprazolam shows that it is the most consumed BDZ in the CAP of Las Heras: 2,85; Lujan: 6,33 and Capital: 6,84 Nevertheless, the consumption of alprazolam in Las Heras is 67% in Lujan 39,8% and Capital 55,2% compared to the total of the BDZ. Diazepam is the second more prescribed ansiolitic in Capital, however in Las Heras and Lujan it is less prescribed than Capital. In Social Health Departments the DDD/1000/day of BDZ corresponds to 45,7 in DAMSU, and 48,8 in Caja Forense, being alprazolan the most used, 75,04% and 55,88% respectively regarding the whole BDZ. Lorazepam is the second most used ansiolitic in both institutions. According to the APA (association o Argentine psychiatry), between 20 and 40 persons every 1000 can endure disorders of anxiety. If we compare the DDD/1000/day o BZD, Las Heras consumed 2,85, Luján 6,33, Capital 6,84 DAMSU 69 and Caja Forense 87,3, clearly indicating that th consumption of BZD is irrational only in Social Health Dept.

60.

PARAMETERS OF OXIDATIVE STRESS IN DM 4800 SOYBEAN ROOTS (*Glycine max* L.) UNDER STRESS WITH CADMIUM

Felici CE, Perez Chaca MV, Molina AS, Marsa S, Zirulnik F.
PROIPRO 2-0304, Facultad de Química, Bioquímica y Farmacia, UNSL. E-mail: perezch@unsl.edu.ar

There is a connection between antioxidant enzymes and the levels of H_2O_2 as an indicator of oxidative stress in the plant when it is contaminated by cadmium (Cd). The objective of this work was to examine the levels of oxidative damage in relation to the production of H_2O_2 and the response of the activity of NADP-ICDH, GR, SOD and APX of the plant roots. Soybean sprouts were developed under controlled conditions of temperature, light, dark and relative humidity. After four days of germination they were placed in hydroponic conditions, with Hoagland nutrient solution. After ten days of development the Cd treatment was started (40 µM) for 6, 24, 72 hours and 6 days. NADP-ICDH activity increases with respect to the control (Co) as a function of time ($p<0.01$). GR showed an increase from 24 h ($p<0.03$), increasing at 6 days ($p<0.003$), respect to the Co. APX did not showed any changes along the curve of time, except for 6 days where there was an increase in the plants treated with Cd ($p<0.01$). SOD activity decreased in the time curve in plants treated with Cd ($p<0.01$). H_2O_2 increases at 72 h and 6 days ($p<0.01$), compared to the Co. We suggest that cadmium alters the antioxidant system in soybean roots as a function of time. By preliminary data we know that lipoperoxidation was decreased along the time which coincides with the increase of GR and APX and with the decrease of SOD. In this case H_2O_2 acts as a signal activating the antioxidant defense system.

61.

AUTOCHTONOUS EDAPHIC *Cyanophyta* (CIANOBACTERIAS) OF SALINAS DEL BEBEDERO (S.L.)

Fernandez Belmonte MC[1], Manrique M[1], Martínez Carretero E[2], Dalmasso A[2], Carosio C[3], Andersen A[3], Junqueras MJ[3]
[1]FICES, UNSL; [2]IADIZA; [3]F QBqca y Farm UNSL.
E-mail: ferbelma@fices.unsl.edu.ar

Salinas del Bebedero are located 45 Km at west in San Luis city, with an approximated extension of 5 Km in bredth for 15 Km in length. The climate presents a marked seasonal difference with cold winters and hot summers; an annual precipitation oscilates between 300-350 mm, in the spring-summer. The edaphic algaes are represented fundamentally by *Cyanophyta, Chlorophyta and Bacillarophyceae*. The objective of the present work is to know and to study the autochtonous edaphic algaes, especially of cianobacterias to Salinas del Bebedero, due to there aren't antecedents of the same. The cianobacterias are very important to consolidate degraded soils; they live between the plants' roots and they have the capacity to fix atmospheric Nitrogen. Twenty eight samples were extracted of highly saline-sodium soils, where representative vegetable communities exist. They were cultivated in Watanabe liquid (1959) and placed in cultivation camera under controlled conditions of temperature, 20-30ºC, and a photoperiod of 12 hs in light and 12 hs in darkness. The stocks were isolated by chime and photomicrographies of the taxa were taken. At the present time four species of the gender *Phormidium*, five of *Nostoc* and one of *Synechococcus*, *Oscillatoria*, *Anabaena*, *Calothrix* and *Nodularia* have been identificated. The importance of these results is that these algaes are aggregater of soils and most of them can fix N_2.

62.

DIFFERENTIAL EFFECT OF THE SECRETIONS OF CELL POPULATIONS FROM SPLEEN ON ANDROSTENEDIONE RESPONSE OF THE POLYCYSTIC OVARY OF RAT

Forneris M, Figueroa MF, De la Vega M, Cardozo D, Oliveros L.
Lab Biol Reprod., Fac. Qca Bqca y Farmacia. Univ Nac de San Luis. 5700-San Luis. E-mail: mforn@unsl.edu.ar

We have showed that progesterone release from polycystic ovary (PCO) is modified by secretions of splenocytes (Sp) from rat spleen. Now, we investigate the in vitro modulation of Sp, macrophages MΦ, and lymphocytes (Ly) secretions on the androstenedione (A) release from PCO ovaries. The PCO was induced in adult rats by a single i.m. injection of estradiol valerate, 2 mg/rat. After 2 months, when cysts are established, the rats were sacrified. Spleen cell populations ($1x10^6$ cells) from control (C) and PCO rats were cultured for 24 h in RPMI medium supplemented with 10% of FBS and antibiotics. MΦ were allowed to adhere in the culture plates for 4 h at 37°C in a 95% air-5% CO_2 atmosphere. The non-adherent cells were considered as Ly. Nitric oxide (NO) was measured (nitrites, Griess reaction) in the cell secretions, which were used to estimulate PCO ovaries for 3 h in a metabolic bath. The A released into the liquid incubation was determined by RIA. Sp and MΦ secretions from PCO rats showed lower levels of NO than those of C rats, and also they decreased the ovarian A release ($p< 0.001$ and $p< 0.01$, respectively) compared with secretions from C rats. The ovarian A response induced by C and PCO Ly was significantly lower than that of Sp and MΦ. The observed modulation of A release indicates a functional relation between the ovary and the spleen through splenocyte secretions, which can be attributed to the MΦ.

63.

DETECTION OF SGLT1 BY WESTERN BLOT IN BIRDS

Funes SC, Gatica Sosa CP, Chediack JG, Caviedes-Vidal E.
IMIBIO-SL -UNSL. E-mail: samanta.funes@gmail.com

SGLT1, the Na^+/Glucose cotransporter is a relevant component of the glucose uptake of the brush border membrane of the small intestine, though up to date no efforts had been performed to evaluate its expression in birds. Thus, our aim was to develop a western blot assay to identify SGLT1 in birds. We used two bird species *Gallus gallus* and *Taeniopygia guttata*. We prepared jejunal homogenates of the small intestines and separated the proteins using SDS-PAGE (8%), transferred to a PVDF membranes. Western blot assays using a SGLT-1 primary antibody (Chemicon, Inc.) against amino acids 402-420 of the putative extracellular loop of SGLT1 of rat small intestine were completed. We assayed rat small intestine homogenates of Sprague-Dawley rats as well, to validate the specificity of the antibody. Immunoblotting was developed by an enhanced chemiluminescence system. Characteristic bands (~50; ~70 and ~225 kDa) of SGLT1 in rats were apparent in both bird species showing that the protein has highly conserved sequences among mammals and birds, as has been proposed for other taxa by colleagues. To our knowledge this is the first western blot assay developed for birds and prove to be a useful tool for avian digestive physiology.

Supported by FONCYT 25561 and UNSL 22Q751 to ECV.

64.

IDENTIFICATION OF LARVAE OF "WORMS WIRE" (COLEOPTERA: ELATERIDAE) PRESENT IN CENTRAL-EASTERN PROVINCE OF SAN LUIS

Funes B, Martinez A, Bonivardo S.
FICES. UNSL. 5730 Villa Mercedes, San Luis.
E-mail: mariabelenfunes@gmail.com

Currently, with a no-tillage system, of soil insects have become very important, given the conditions favorable to the plague that gives the same. The identification of species present in agro-ecosystems is the first step in raising subsequent management, under the Integrated Pest Management (IPM). With the aim of contributing to the taxonomic knowledge of forms of immature "worms wire" to the zone of influence of Villa Mercedes, and using the key proposal by Dogger (1991), translated and improved by Cordova (2003), were determined genus: Conoderus sp., Alaus sp., and Aeolus sp., all belonging to the subfamily as Pyrophorinae the tribe Pyrophorini; Pytiobius sp., belonging to the subfamily as Pyrophorinae the tribe Pytyophorini; Agriotella sp., belonging to the subfamily Elaterinae and the tribe Agriotini and the genus Sericus sp., belonging to the subfamily Elaterinae and the tribe Elaterini.

65.

MOLECULAR AND BIOCHEMICAL STUDIES OF A POLYPHOSPHATE PHOSPHATASE ACTIVITY FROM *Pseudomonas aeruginosa* PAO1

Gallarato LA, Vicario JC, Beassoni PR, Garrido M N.
Dpto Biología Molecular, FCEFQN, UNRC, 5800 Río Cuarto, Córdoba, Argentina. E-mail: lgallarato@exa.unrc.edu.ar

In *P. aeruginosa* PAO1 the PA5241 gene codifies for a polyphosphate phosphatase (PPX). Bioinformatics analysis of this PPX demonstrated a high homology with the *E. coli* enzyme. Comparative modelling indicated that *P. aeruginosa* PPX contains N- and C-terminal domains. Biochemical studies indicated that the N-terminal domain is responsible for the enzyme activity. The C-terminal moiety might be related to the recognition of the length substrate. The overexpression (in *E. coli* as N terminal fusion to 6xHis-tag, purified by affinity on Ni-agarose columns, and posterior thrombin 6xHis removal) of the full-length PPX, and the $N_{(1-314)}$ and $C_{(314-506)}$ terminal domains led us to know some properties of the full enzyme and of the polypeptide $N_{(1-314)}$. The kinetic studies demonstrated that the enzyme activity was dependent on Mg^{2+} ($K_A \cong 5$ mM), and was non-essential but cooperatively activated by K^+ (n Hill $\cong 2$; $K_{0.5} \cong 15$ mM). The K_M values decreased, and the catalytic efficiency increased with the length of the polyphosphate chain (E.g., for polyphosphates 25, 45, 65 and 75 the K_M values were approximately 11 µM, 7 µM, 4 µM and 1.5 µM, respectively). Site directed mutagenesis indicated that the E126, D149, G151, S154 and E156 residues were essential for the enzyme activity.

66.

BEHAVIORAL EFFECTS OF CLORIMIPRAMINE AND REWARDING TREATMENTS IN AN ANIMAL MODEL OF DEPRESSION AND BASAL CONDITION

García A, Adaro D, Torrecilla M, Rodríguez Echandía E, González Jatuff A.
IMBECU (CONICET-UNCuyo), Fac Cs Médicas.
E-mail: ange_keka@yahoo.com.ar

Depression is a behavioral, neurochemical and emotional dissorder. Though pharmacological treatments have proved to be effective in this syndrome, reversal may also take place under non pharmacological schedules. In this work a comparisson between chlorimipramine (CIM, 3 mg/kg/day) and chronic aleatory rewarding (CAR), was made after a chronic 14 day aleatory stress exposure (S, Exp 1), and basal conditions (B, Exp 2) in male rats. 24 hs. after the antidepressant treatments (ATD), animals were observed in: 1.-OVM-holeboard (locomocion and exploration). 2.-Plus-maze ("ansiogenic" performance). 3.-Forced swimming (intra-stress reaction: scapes and inmobility). Animals were kept undisturbed for three weeks, and then challenged with a noise acute stress. Sucaryl preference and corporal weight were periodically recorded. In the 3 tests CIM reversed behavioural post-S deficit better than GRA, but showed little influence in non-stressed rats. In GRA exploration features were increased, both in S and B animals. Only CIM could keep high values of sucaryl preference after withdrawal of ATD. Noise stress reaction was more attenuated in GRA than CIM in S-groups. Both CIM and GRA showed ATD properties, being CIM more effective at the end of treatment. GRA showed a slightly better long-lasting effect. Scared effects were seen under non-stressed condition.

67.

THE USE OF ERBIUM-YAG LASER IN THE TREATMENT OF THE DENTIN WALLS OF THE RADICULAR CONDUCT

García Gadda B, García Gadda G, Milat E, Procacci M, Etchegoyen L, Cantarini M, Basal R.
Facultad de Odontología, Universidad Nacional de La Plata. Calle 1 y 50. E-mail: cocamilat@yahoo.com.ar

The use of Er-YAG laser in dentistry is quite broad, showing promising results and a progressive and steady inclusion in this profession practice. The Er-YAG laser allows the physician to offer the patient an adequate care, taking into account both clinical and ethical criteria.The aim of this study is to evaluate the removal of organic and inorganic matter from the walls of the radicular conduct through the use of the Er-YAG laser, facilitating its posterior obturation.For that purpose, sixteen central incisors were selected according to clinical and radiographic features. They were all treated endodontically and eight of them were subjected to Er-YAG laser application, which was selected due to its wavelength and good absorption by water and hydroxyapatite present in dentin composition. After scanning electron microscope (SEM) evaluation, it was found that in those dental pieces treated with the laser, the dentine conducts were open and free of smear layer. The output power of the equipment was 160 mJ and repetition rate (frequency) was 15 Hz.

68.

EVALUATION OF MICRONUCLEI FREQUENCY INDUCED BY *Aristolochia argentina* IN MOUSE BONE MARROW

García J[1], Pereira S[1], Sosa A[2], Fusco M[2], Wendel G[1], Pelzer LE[1].
[1]Farmacología, [2]Farmacognosia, Fac Qca, Bioqca y Fcia. Univ Nac San Luis, 5700 San Luis. E-mail: gwendel@unsl.edu.ar

Aristolochia argentina (*A.a.)* (family Aristolochiaceae), popularly known as "charrúa", is used in folk medicine as: diuretic, antidiarrheic, astringent and antihemorroidal. The acute toxicity test after oral administration of 2000 mg/kg of *A.a.* revealed non-toxicity at this dose. This study examined the genotoxicity of *A.a.* using micronucleated polychromatic erythrocytes (MN-PCE) in bone marrow of Rockland mice. Animals (3 males and 3 females) were injected intraperitoneally with destilled water (control group), *A.a.* 250 and 500 mg/kg and paracetamol 1 g/kg (positive control). Mice were killed at 24 or 48 h after dosing. Bone marrow cells were smeared, fixed with methanol, and stained with May-Grünwald Giemsa. The presence of MN was evaluated in 2000 PCE for each animal. Our results showed that there were no differences in MN frequency per 1000 PCE (mean ± SEM) between *A.a*.-treated groups (250, 500 mg/kg: 5.83 ± 0.86, 5.41 ± 1.35, respectively) and control group (4.33 ± 0.30) at 24 h. This effect was also observed at 48 h (*A.a.* 250, 500 mg/kg: 5.66 ± 1.04, 4.75 ± 0.77, respectively vs. control group: 4.16 ± 0.30). Administration of paracetamol produced a significant increase ($p<0.0001$) in MN frequency at 24 h (13.83 ± 0.62) and at 48 h (15.00 ± 0.46) compared with that controls. These data indicate that *in vivo A.a*. has neither aneugenic nor clastogenic effects.

69.

MODULATION OF THE OVARIAN STEROIDOGENESIS BY STIMULATION OF CELIAC GANGLION WITH VIP OR NPY IS AFFECTED BY NOREPINEPHRINE IN GANGLION

Garraza MH, Forneris M, Gatica L, Oliveros LB.
Lab Biol Reprod., Facultad Qca Bqca y Farmacia. Univ Nac de San Luis. 5700-San Luis. E-mail: mhg@unsl.edu.ar

We have showed in Holtzman rat on Diestrus (D) day 2 cycle stage that stimulation of celiac ganglion (CG) with Vasoactive Intestinal Peptide (VIP) or NPY in the ex vivo integrated system CG-superior ovarian nerve (SON)-ovary (O) incubated with Krebs-Ringer buffer in metabolic bath increases the ovarian progesterone (P) response. This increase is reverted by the addition of norepinephrine (NE) plus VIP or NPY in CG. Now, we study in the same system from rats on D1 whether the ovarian P and androstenedione (A) release and also the ON/iNOS system are modulated by the addition of 50 ng/ml of VIP or NPY with or without 10^{-6} M of NE in CG. Hormones were determined by RIA and NO by assaying nitrite (Griess reaction), at 30, 60, 120 y 180 min of incubation. The iNOS expression was measured by Western blot at 180 min. Basal values were obtained by incubating CG with Krebs Ringer alone. VIP or NPY on CG increased the P, without change in A release, from the O. The VIP effect was associated to a decrease of the ovarian NO/iNOS system. The addition of NE + VIP or NPY on the CG decreased the P release to basal values at 180 min, without significant alterations in NO and iNOS, compared with VIP or NPY alone. Both neuropeptides and NE on CG induce an ovarian P and NO response on D1 lower than that of rats on D2, and they do not regulate the ovarian A release.

70.

DIURETIC ACTIVITY OF *Lithraea ternifolia* INFUSION IN RATS

Garro MF[1], Fernández JE[3], Saad JR[2], María AO[1], Pelzer L[1]
[1]Farmacología, [2]Química Orgánica, [3]Química Analítica. Universidad Nacional de San Luis. E-mail: alemaria@unsl.edu.ar

Lithraea ternifolia (Gill.) Barkley (Anacardiaceae) is known popularly as "molle", "m. de beber", "m. blanco", "m. dulce" or "chichita". *L. ternifolia* is used in folk medicine as a diuretic and digestive. This study was designed to determine the effects of *L. ternifolia* infusion on the urinary excretion of water and sodium in isotonic saline loaded Wistar rats. The method described by Lipschitz *et al*. (1943) was followed. Each lot was treated with: *L. ternifolia* 10% infusion, furosemide as standard drug and saline solution as negative control. Urinary volumetric excretion and urinary levels of Na^+ were measured in 3 hours diuresis after each treatment. The urinary concentration of sodium was determined by flame spectrometry. Student's t test was performed to evaluate the statistical differences between the control and the experimental samples for each time point. The urinary volumetric excretion, recorded at 15 min intervals, was increased by the infusion between 60 and 105 min ($p<0.05$). Saline solution vs furosemide showed significant difference starting at 15 min ($p<0.001$).The treatment with furosemide it caused an increment in the urinary excretion of Na^+, while treatment of rats with infusion of *L. ternifolia* had no significant effect. The data reported in the present work indicate that the infusion of *L. ternifolia* showed moderate diuretic activity in comparison with furosemide, a high-ceiling diuretic agent.

71.

IDENTIFICATION OF DISACCHARIDASES AND SGLT1 GENE EXPRESSION IN THE PASSERINE BIRD, HOUSE SPARROW (*Passer domesticus*)

Gatica Sosa CP, Funes SC, Chediack JG, Caviedes-Vidal E.
IMIBIO-SL -UNSL. E-mail: c.gaticasosa@gmail.com

Sugar breakdown and absorption by intestinal membrane bound proteins are important steps for energy acquisition in animals. An important molecular tool to examine the expression and regulation of the genes is to have primers to determine their mRNAs. No sequences of these genes are available for passerine birds. Thus, the aim of this study was to develop specific primers for sucrase-isomaltase (SI), maltase-glucoamylase (MG) and the brush-border Na^+/glucose cotransporter (SGLT1). We excised mid-small intestines and prepared homogenates to extract total RNA from house sparrows captured in San Luis. To achieve our goal, we designed primer pairs using the predicted sequences of SI, MG and SGLT1 genes for chicken. Then, we performed a reverse transcription reaction and a PCR with the designed primers. An electrophoresis was run to identify the amplified fragments. The fragments matched the expected length (SI: 103bp, MG: 153bp, SGLT1: 130bp). PCR products were also cloned with a TOPO TA cloning system (Invitrogen) and products were sequenced. In conclusion, we developed specific primers and identified the partial sequences of SI, MG and SGLT1 for house sparrows to be used as tools for further studies in avian digestive physiology.
Supported by 9502 CyT-UNSL and PICT 25561 to ECV.

72.

HPLC PROFILES OF SEXUAL TYPES OF *Thymophylla pentachaeta* var. *belenidium* (ASTERAC.-TAGET.)

Gette MA, Petenatti E, Zacchino S, Saidman E, Aragón L, DelVitto LA.*
*Herbarium/Proy. 8702, 22Q/616 FQByF, UNSan Luis;*Pharmacognosy, FByF, UN Rosario.*
E-mail: mgette@unsl.edu.ar

Thymophylla pentachaeta var. *belenidium* is known under the vernacular name "perlilla"; it is used in popular medicine as an anti-inflammatory and diuretic, and in the treatment of conjunctivitis. It was isolated apigenine (0,04%), luteoline (0,01%), 7-metilluteoline (0,01%), nepetine (0,01%) and 7-glucosilquercetagetine (0,1%). The species shows gynodioecy, that is there are populations with plants provided with campanulate capitula with marginal florets shortly ligulate (sl) and pistillate, and disc florets tubulose, hermaphrodites; and other plants with subcylindric capitula provided with marginal florets largely ligulate (ll), pistillate, and the disc florets tubulose, functionally female. It were obteined HPLC chromatograms from entire aerial part and capitula separately, both of sl as ll, with the aim to establish that these phenotipic differences are correlated with their chemical composition. The methanolic extracts were analyzed with a HPLC Gilson with DAD detector, at 254 nm, with Lichrospher 5 µm column RP Select B 60A 4. x 125 mm, and water with phosphoric acid 1% and acetonitrile with phosphoric acid 1% in gradient as phase mobile. The comparison of the respective spectra suggest a notorious variation in correlation with the two analyzed sexual types, and it is more significantly in the case of isolated capitula.

73.

ULTRAVIOLET-B RADIATION MODIFIES THE METHABOLIC PROFILES OF TERPENOIDS IN *IN VITRO Vitis vinifera* L. cv. *Malbec* PLANTS

Gil M[1], Pontin M[2], Longo A[1], Bottini R[1], Piccoli P[1]
[1]FCA-CONICET, UNCuyo, Chacras de Coria, Mza. [2]EEA-INTA La Consulta, La Consulta, Mza. E-mail: mgil@fca.uncu.edu.ar

The ultraviolet-B radiation (UV-B) increases with altitude provoking damages at cellular levels. In this work, we analyzed the metabolic profiles of grape leaves exposed to photosynthetic active radiation (PAR) supplemented with UV-B, versus control (PAR without UV-B). The plants were grown 40 days in modified MS-medium under PAR radiation (100 µmol m^{-2} s^{-1}), after that submitted to a) 16 h PAR without UV-B (control); b) 16 h PAR + 16 h UV-B (7,2 µW cm^{-2}). Then, the different metabolites were extracted from apical leaves with a gradient of polarity solvents. The extracts were analyzed by gas chromatography and mass spectrometry (GS-MS). In plants submitted to UV-B radiation the sesquiterpenes, Nerolidol, Bergamotene and Farnesol were identified, and those compounds were absent in the controls. Membranes sterols were by counterpart decreased. Our preliminary results suggest that the plant tissues expose to UV-B radiation synthesize *de novo* sesquiterpenes compounds, in detriment of sterols.

74.

QUERCETIN INHIBITS ANGIOTENSIN II-INDUCED AORTIC SMOOTH MUSCLE CELL MIGRATION

Gil Lorenzo AF[1], Castro CM[2,3], Cruzado MC[2].
[1]Program I+D SeCTyP, [2]FCM, UNCuyo, [3]IMBECU, CONICET.
E-mail: gil.andrea@fcm.uncu.edu.ar

Smooth muscle cell (SMC) migration into the vascular wall is an important process of vascular remodeling associated with hypertension. Quercetin, a bioflavonoid present in the red wine is known to have antioxidant properties and a protective role in cardiovascular system. In this study we investigated the effect of quercetin (5 and 10 µg/mL) on cultured aortic SMC from spontaneously hypertensive rats (SHR). We evaluated angiotensin II (AII)-stimulated migration by *scrape-wound* assay and cell viability by CellTiter assay. Data (mean±SEM) presented as percent of control (0.1% fetal calf serum), were analyzed by ANOVA and post test of Bonferroni. AII (10^{-7}M) induced a significant increase of SMC migration after 24 h stimulation (198.23±10.67). The highest concentration of quercetin markedly inhibited AII-stimulated cell migration (129.29±9.88, *P<0.001 vs. AII). Quercetin treatment at used concentrations, did not affect cell viability (80.24±11.67% and 96.16±9.74% vs AII). The antimigratory properties of quercetin on vascular SMC from SHR, suggest a beneficial effect of flavonoids on reducing parameters associated with cardiovascular disease.

75.

STRUCTURAL BIOLOGY OF *T. cruzi* ENERGETIC METABOLISM PROTEINS AS POTENTIAL TARGET FOR DRUG DESING

Gómez Barroso JA, Miranda M, Stradella F, Bouvier LA, Canepa GE, Pereira C, Aguilar CF.
Lab de Biol Mol Estructural, Univ Nac de San Luis.
E-mail: jagomez@unsl.edu.ar

Trypanosoma cruzi is the etiologic agent of Chagas' disease. The objective of our work is the resolution by X-ray crystallography of the three-dimensional structure of *T. cruzi* proteins involved in energetic metabolism as a first step for rational drug design based on the structure. The main objective of the Chagas´ Disease Research Network is the search for protein targets in metabolic routes absent in the human host and common in trypanosomatids. The *T. cruzi* proteins studied in this work are: TcNDPK (Nucleoside Diphosphate Kinase), TcTAF9 (TATA Binding Factor 9) and TcAdK1 (Adenilate Kinase 1). They are expressed in *E. coli* as fusion proteins with N-terminal His-tag. We have overexpressed, purified and solubilized these proteins for crystallization and other structural assays. We have carried out bioinformatic studies. TcNDPK was studied in different cristalization conditions. TcNDPK crystals were used by X-ray diffraction assays. TcTAF9 was overexpressed, and solubilized in adequate quality for crystallization assays and other structural studies. Cristallization screenings were realized for TcAdK1. The structural particularities of these proteins showed a high potential for drug design.

76.

STRUCTURAL BIOLOGY OF *T. cruzi* BROMODOMAIN FACTORS AS POTENTIAL TARGET FOR DRUG DESING

Gómez Barroso JA, Jerez B, Villanova V, Serra E, Aguilar CF.
Lab de Biol Mol Estructural, Univ Nac de San Luis, San Luis 5700.
E-mail: jagomez@unsl.edu.ar

Trypanosoma cruzi is the etiologic agent of Chagas' disease. Th objective of our work is the resolution by X-ray crystallography o the three-dimensional structure of *T. cruzi* bromodomain facto proteins as a first step for rational drug design based on the structure The main objective of the Chagas´ Disease Research Network is th search for protein targets in metabolic routes absent in the human host and common in trypanosomatids. The *T. cruzi* proteins studied in this work are three bromodomain factors: TcBDF1, TcBDF2 and TcBDF3. They are expressed in *E. coli* as fusion proteins with N terminal His-tag. We have overexpressed, purified and solubilized these proteins for crystallization and other structural assays Refolding assays was realized by TcBFD3. We have carried ou bioinformatic studies. These proteins were overexpressed and purified in adequate amounts for crystallization assays and othe structural studies. Preliminary structural and bioinformatic studie revealed important properties which can be used for drug design.

77.

EFFECTS OF ADRENERGIC AGENTS ON THE OVARIAN RELEASE OF OESTRADIOL ON THE FIRST ESTRAL CYCLE OF THE RAT

Gordillo M, Escudero C, Delgado SM, Carrizo D, Rastrilla AM.
Lab. Biol. de la Reproducción. Fac. Qca, Bqca. y Farmacia. Univ Nac de San Luis. 5700 San Luis. E-mail: mauro_mmg@hotmail.com

We have showed that the peripheral innervation participate in ovarian steroidogenesis. The purpose of this work was to analyse the effect of the adrenergic agents Norepinephrine (NE) as agonist, Propanolol (PROP) as β antagonist and Phentolamine (PHE) as α antagonist in coeliac ganglion (CG) on the ovarian release of oestradiol (E_2) on the first estral cycle in rat. The experiments were carried out in the *ex vivo* GC-superior ovarian nerve-ovary system. Witch was incubated in Krebs Ringer-bicarbonate buffer pH 7.4. The groups were: a-Control, b, c and d-NE, PHE and PROP at the same concentrations 10^{-6}M in CG respectively. Aliquots from the ovarian compartment were taken at 15, 30, 60 and 120 min. E_2 was measured by RIA. Was utilized ANOVA 1 followed by Tuckey test with a significance of $p<0,05$. In Proestrous, NE decreased E_2 liberation at 15 ($p<0.01$) and 30 min ($p<0.001$), while that PHE and PROP showed an increase at all studied times ($p<0.001$). In Estrous, NE increased E_2 release at 15 min ($p<0.05$) and decreased its levels at 30 min ($p<0.05$) and the antagonists increased E_2 release at all times ($p<0.001$). In Diestrous, NE ($p<0.001$), PROP and PHE ($p<0.01$) increased E_2 levels at all times. The results shown that the adrenergic ganglionic mechanism on the ovarian liberation of E_2 was in part mediated by α and β adrenergic receptors with different participation from them depending on the stage of the estral cycle.

78.

COUNTS OF RUMINAL BACTERIA COLLECTED BY NASAL TUBE OR RUMINAL FISTULA IN SOMALIA'S SHEEP

Grilli D[1,2], Paez S[2,3], Egea V[2,3], Degarbo S[1,2], Lausi O[2], González J[1,2], Sosa Escudero M[1], Arenas N[1,2].
[1]Univ Nac de Cuyo. [2]Univ Maza. [3]IADIZA-CCT Mendoza.

Studies of ruminal microbial ecosystem traditionally required theuse of fistulated animals. The cost of fistula surgery, care aftersurgery and animal welfare (an important topic in animal´sinvestigation); condition the use of this technique. An alternativeto the conventional fistula technique is the collection of ruminalbacteria using nasal tube. The aim of study was to compare thecounts of cellulolytic and total bacteria collected by nasal tube andruminal fistula. The samples were collected from one fistulatedSomalia´s sheep fed with alfalfa hay. The ruminal fluid wasobtained eighteen hours after feeding, three times each fifteendays. The sample were taken with nasal tube (1250 mm-long 4mm internal diameter) and immediately thereafter through ruminalfistula. The counts of total bacteria (TB) were determinate by rolltube method. Most-probable-number procedure using basalmedium with cellulose (filter paper) was used to estimate numbersof cellulolytic bacteria (CB). The TB and CB were lower in thesamples obtained by nasal tube that those obtained by fistula. Thecellulolytic bacteria are usually attached to the fiber plant.Samples taken by nasal tube containing small quantities of fiber.Therefore the number of bacteria is lower in the samples obtainedby this technique. The samples of rumen fluid for determining TBand CB should not be obtained using the technique of nasal tube.

79.

VARIATION IN THE CONTENT OF PROLINE IN PLANTS OF *Digitaria eriantha* UNDER COLD STRESS

Gutiérrez M, Tavecchio N, Grumber K, Pedranzani H.
Laboratorio de Fisiología Vegetal. F.I.C.E.S. PROICO 50107. Ciencia y Técnica. UNSL. E-mail: hepedra@fices.unsl.edu.ar

The cold, it is one of the environmental conditions, opposite to which the plants answer to physiological, cellular and molecular level as the synthesis of substances osmocompatibles such like reducers sugar, proline, glycine-betaína and pigments. The proline is a not essential amino acid that one finds in small quantities in the leaves of the plants, being able to accumulate in conditions of environmental stress. The aim of the present study, it was to determine the concentration of proline in *Digitaria eriantha* and its relation with the stress for cold. Plant of 10 cm, which grew to temperatures of 4-6ºC for 6, 24 and 72 hs and 25ºC (control), were tried. Proline was extracted by acid sulfosalicílico and for reaction with ninhidrina (agent oxidizer) gave an aldehido and ninhidrina reduced which was quantified for espectrofotometry to 520 nm. The results express a significant increase of the contents of proline endogenous at 6 hs, being the variations at 72 after 24 h, not significant. It is the first time that informs proline's increase in *Digitaria eriantha* and its relation with the cold stress.

80.

THEORETICAL SODIUM CURRENT VERSUS VOLTAGE FUNCTION FOR RAT ISOLATED CARDIOMYOCYTES, OBTAINED BY LINEARIZATION METHOD

Ituarte LME, Viera TB, Saraví FD, Saldeña TA.
Área Fís Biol, Fac Cs Méd, UNCuyo, 5500 Mendoza.
E-mail: patchuncuyo@yahoo.com.ar

Linearization of function (LF) is a method based on reaching, through changes in variables, a linear equation which then permits obtaining the original function that best fits the experimental results. To assess its applicability to patch-clamp studies, where the original function is known, LF was applied to sodium currents recorded from isolated cardiomyocytes from control rats and rats submitted to chronic hypobaric hypoxia, to compare the theoretical functions relating ionic current with stimulus intensity (voltage steps). With pclamp6 software, tetrodotoxin-sensitive sodium current values (I in pA) were obtained as the difference in total current before treatment with tetrodotoxin (2 µg/mL) and after it. Currents were then plotted against voltage steps (V in mV). The original function is $I = C \cdot V \cdot 10^{exp} - D.V$ and the corresponding LF is $Y = AX + B$, where $X = V$ and $Y = \log (I/V)$. In control heart cells ($n = 6$), $Y = - 0.00513\ X + 0.2443$, which yields the theoretical function $I = - 1.755\ V \cdot 10^{exp} - 0.00513V$. The same original and linearized equations apply to data from chronically hypoxic heart cells ($n = 6$) but values of the numerical constants differ significantly. This is consistent with the larger sodium currents in cardiomyocytes from hypoxic rats previously reported by us. Present results support the usefulness of the linearization method for obtaining the original functions relating current with stimulus intensity in patch-clamp studies.

81.

TESTS ON SUBSTRATES FOR THE DOMESTICATION OF *Pappophorum pappiferum* (Lam.) Kuntze

Lartigue C, Morbidelli ME, Verdes PE, Romero MB.
PROICO 50307-Lab. de Genética y Biotecnología Vegetal. FICES–UNSL. V.Mercedes (San Luis). E-mail: lartigue@fices.unsl.edu.ar

The natural grasslands are the most important forage resource in arid regions. There are practices of handling for natural grasslands' recovery, like the interseeding with improved native forages, for this purpose is necessary to obtain the domestication of these. The substrate is a very important factor in the germination and during the establishment of them, for that reason I evaluate the behavior of *Pappophorum pappiferum* (Lam.) Kuntze in different substrates. The following combinations were used (v/v). T1: soil of a field of the region. T2: fertile soil. T3: turba. T4: soil: fertile soil (2:1). T5: soil:turba (2:1). T6: soil: pearlite (2:1). T7: fertile soil: turba (1:1). They received a double sterilization in sterilizer (40´, 1 atm). The seedings were made in speelding. 20 cells by treatment, watered themselves with distilled water, after that they are taken to the culture camera. The information was analyzed statistically by means of: ANOVA. Treatment T1 was the one that reached the greatest speed of germination. In the stabilization of the germination the treatments T1 and T5 were the first ones in obtaining it and they got the highest percentage: 70 and 80%. One concludes that it is not necessary to count on materials of commercial origin like substrates for the germination of this species, since we get a good percentage of germination with soils of this region and we also obtained fastest stabilizations with these materials.

82.

ANALYSIS OF PHYSICAL-CHEMICAL STIMULI IN THE GERMINATION OF *Pappophorum pappiferum* (Lam.) Kuntze

Lartigue C, Morbidelli ME, Verdes PE, Leporati J, Romero MB.
PROICO 50307-Lab. de Genética y Biotecnología Vegetal. FICES–UNSL. V.Mercedes (San Luis). E-mail: lartigue@fices.unsl.edu.ar

In this work the conditions and physical and chemical stimuli were analyzed in the germination of *Pappophorum pappiferum* (Lam.) Kuntze. 7 treatments like physical stimuli and chemists were applied to break latency, and three repetitions in each one of them. The applied treatments were the following ones: Cold-dry 5 and 10 days; Cold-wet 5 and 10 days; immersion in NO3K (0,2%) 12, 24 and 48 hs. The seeding was carried out on paper tissue in plastic boxes. 50 seeds for box and 3 repetitions. The different treatments were watered with sterile distilled water they covered with polyethylene bags and they were placed in cultivation camera (25 ± 2°C of temperature, photoperiod of 16 hours of light and 8 of darkness). The recounts were carried out under the glass magnifying with increase 16x. The statistical analysis was carried out by means of ANOVA. The obtained results demonstrate that the treatments so much cold-dry as wet they gave highly significant differences with regard to the treatments with NO3K. There was also difference with regard to the quantity of days of exhibition in the case of cold-wet, being observed bigger percentage in 5 days. You concludes that this species responds with highly significant values to the pre-treatment with cold.

83.

AGING DISMINISHED CIRCULATING ENDOTHELIAL PROGENITORS CELLS IN ApoE-DEFICIENT MICE

Lembo C[1], Renna N[2,3], Cruzado M[2], Miatello R[2,3], Castro C[2,3].
[1]Becaria Agencia FONCyT; [2]FCM, UNCuyo; [3]IMBECU, CONICET.
E-mail: rmiatell@fcm.uncu.edu.ar

Levels of circulating endothelial progenitor cells (EPCs), characterized by expressing the antigens CD34 and vascular endothelial growth factor receptor-2 (VEGFR-2), is considered a better predictor of vascular reactivity than the presence of conventional risk factors. This study was performed to isolate and characterize, circulating EPCs from atherosclerosis-prone ApoE-/-mice during aging. Heparin blood samples from severely atherosclerotic, 10-month-old ApoE-/-mice and 4-week-old ApoE-/-mice were collected. Cells were stained with FITC-conjugated CD34 and phycoerythrin-conjugated VEGFR-2 antibodies (BD). Flow cytometry analysis was performed using FACS (BD). Conphocal immunofluorescence was also assessed. Circulating CD34+/VEGFR2+ differ numerically between young and old ApoE-/-mice (5.4% ± 0.3 *v* 2.5% ± 0.4; n=4 each group, $p<0.005$). Quantification of the extent of plaque with Oil red O-stained in the aorta and femoral artery showed no atheroma in young mice and many atheromatous plaque in aorta and femoral in old mice, despite persistent hypercholesterolemia. Our results suggested that aging results in a lower number of circulating endothelial progenitor cells that could be associated to enhanced atherosclerosis.

84.

PLATELET SEROTONIN IN ALCOHOLIC PATIENTS, IN RELATION TO EFFICIENCY OF CLOMETIAZOL. CART EFFECTS

Llinas Carrillo S, Leytes E, Abud M, Ponce C, Cejudo C, Cayado Gutierrez N, Bianchi RA.
Área Bioquímica. FCM. UNCuyo. Hospital "Hnos Ameijeiras". La Habana, Cuba. IHEM-CONICET. Instituto Antártico Argentino. E-mail: bianchidoc@yahoo.com.ar

The relation of serotonine and alcoholism is a recognized fact in the international literature. The relation between the serotoninergic neurotransmision and the Alcohol Abstinence Syndrome (AAS) shows some experimental published results. In the present work there is valued the effect of two tranquilizing medicaments for the AAS: clometiazol and clordiazepoxid and its relation with the levels of plateret serotonin and serotonin captures. A clinical test was realized Phase III randomized. Criteria diagnosis and selection from the Manual of diagnosis and statistics DSM IV are used, as well as scales of global clinical impressions and of the AAS. The clinical test included fifty male patients, aged average from 35 to 45, in which samples of blood were obtained trough Venous puncture(10 ml) in order to obtain enriched platelet plasma. These tests were realized at the first and tenth day of treatment. The efficiency of clometiazol on the serotonin functioning in the treatment of AAS were evaluated, as well as comparisons with the effect of clometiazol on the capture of platelets serotonine. Serotonine capture and platelet serotonine values showed statistically significant results ($p <0,005$ and $p <0,001$) respectively between first and last day of study. In addition, analysis of what happened was realized when serotonin capture and the serotonin were compared. There were no diferences between pharmacological effects of both medicaments. In the preliminary results can be inferred that those patients with low punctuations in abstinence scale present major platelet concentration of seotonina and captation. Peliminary test results of CART peptides showed an increased level in relation to serotonin obtained values.

85.

LOW CONCENTRATIONS OF DEHYDROLEUCODINE PROMOTE HaCaT CELLS PROLIFERATION AND ANTIMICROBIAL PEPTIDES EXPRESSION

López ME[1], Zoppino FCM[1], Innocenti C[1], de Rosas JC[1], Giordano OS[2], Carretero M[3].
[1]FCM, UNCuyo; [2]Fac. de Química, UNSL, Argentina; [3]Ciemat, Madrid, España. E-mail: melopez@fcm.uncu.edu.ar

Dehydroleucodine (DhL) is a sesquiterpene lactone, isolated from *Artemisia douglasiana* that possess cytostatic activity in vegetables stem cells and on animal vascular wall smooth muscle cells. It also has gastroduodenal mucosal anti-inflammatory action and antiparasitic activities. Antimicrobial peptides form part of the innate mechanism of defense and are expressed in human skin under inflammatory conditions. Due to skin infections interfere in the wound healing process and some of the sesquiterpene lactones have antimicrobial activity we determine the possible role of DhL in skin wounds repair by assessing proliferation and expression of antimicrobial peptides in HaCaT cells, a human keratinocyte line. To evaluate cellular proliferation under DhL different concentrations we used the reduction of tetrazolium salt (XTT) and Bromodeoxyuridine incorporation. RT-PCR semiquantitative was used to evaluate the antimicrobial peptides expression. Concentrations between 200 and 50 µM of DhL provoke cell death, with 50 to 25 µM of DhL cell proliferation is reduced, with 10 µM of DhL cell proliferation is the same as control, meanwhile between 1 µM and 100 nM cell proliferation is promoted. Besides 1 µM concentrations of DhL induce antimicrobial peptides expression in HaCaT cells. Keratinocytes proliferation is promoted by low concentrations and inhibited by high concentrations of DhL, showing a dual effect characteristic of some vegetable sign molecules.

86.

PARTICIPATION OF THE BRAIN ANGIOTENSINERGIC SYSTEM IN THE NEONATAL HYPOXIA-ISCHEMIA LESION

López-Aguilera F[1], Alvarez D[2], Bonafede M[3], Meneo G[4], Seltzer A[1]
[1]IHEM-CONICET; [2]UNSL; [3]IMBECU-CONICET; [4]UJAM.
E-mail: aseltzer@fcm.uncu.edu.ar

Previous data indicate that in the adult brain the AT_2 receptors of Angiotensin II (ATII) exert neuroprotective actions. AT_1 blockers decrease the infarcted areas, and this may be related to an increase of AT_2 receptors activity. ATII regulates cerebrovascular flow and blood vessel´s compliance through AT_2 receptors. We attempt to further explore the participation of ATII in the hypoxic-ischemic (H-I) lesion in the immature brain.

Seven-day old pups of Wistar Kyoto rats where preconditioned (PCon). On the next day, the right common carotid artery was ligated and cut under light anesthesia and submitted to asphyxia (N_2 100%, 2-4m). Control animals where sham operated and breathed room air. Animals were sacrificed at 24, 48h and 7, 30 days after H-I. RT-PCR: We observed that the mRNA of the AT_2 receptor remained constant in all groups at 24 h post lesion (n=9 animals; 3 groups of 3 animals each). Western Blot: At 24h post lesion, the AT_2 protein increased in both hemispheres, showing a larger increase at the ipsilateral side. By 48h the values tend to normalize. PCon animals showed attenuated effects. Immunohistochemistry: In fixed and cryoprotected slices of the lesioned animals we explore the expression of the AT2 receptor together with gliosis, apoptosis and vascularization.

ANPCYT2007: 00451; PIP-CONICET2005: 5949.

87.

5-EPI-ICETEXANE MAY AFFECT THE CELL CYCLE OF *Trypanosoma cruzi* BY MULTIPLE MECHANISMS

Lozano E, Sartor T, Tonn C, Nieto M*, García EE*, Sosa MA.*
*IHEM-CONICET-UNCuyo Mendoza. *INTEQUI-CONICET–UNSL, 5700 San Luis.*

Trypanosoma cruzi is the etiological agent of chagas' disease. In cultures, these parasites cycle between the flagellate epimastigote form, and scarcely differentiate to the infective trypomastigote. Quinones derivatives have shown to be effective against the parasite, although their use is still restricted because a cytotoxic effect on the host cells. A novel hydroxylated quinone, 5-epi-icetexane (ICTX), purified from *Salvia gilliesi,* exhibited an antiproliferative effect on cultured *T.cruzi* epimastigotes, even at very low concentrations. We have previously observed that the growth of parasites (Dm28c strain) synchronized with hydroxyurea (HU) was arrested selectively between 12 and 14 hr after removal HU, whereas no major effect was observed at earlier step corresponding to the S phase of the cell cycle. Here, we extended this study to other phases of the cell cycle. In contrast with the previous results we observed that ICTX affects the S phase, as the H^3 Timidine incorporation was strongly inhibited by the compound. Moreover, by electron microscopy, we observed that the M phase is somehow retarded by the compound, possibly by inhibition of cytocynesis. By western blot we observed that Cycline B is increased by ICTX possibly by inhibition of the anaphase-promoting complex (APC). From these preliminar results we conclude that ICTX affects the cell cycle of *T.cruzi* at different time points and by multiple mechanisms.

88.

AXOGENIC RESPONSE TO 17-β-OESTRADIOL IN HYPOTHALAMIC NEURONS OF TRANSGENIC XY$^-$Sry MALE MICE

Lucci MS, Cambiasso MJ.
Instituto Ferreyra (INIMEC-CONICET). CC 389. (5000) Córdoba.
E-mail: slucci@immf.uncor.edu

Previous work from our laboratory has demonstrated that only neurons from the hypothalamus of male rats (gestational age 16, E16) respond with increased axonal growth to the addition of 17-β-oestradiol (E2) to the culture medium. Transgenic XY$^-$Sry mice are a powerful tool to study the sexual differentiation of the brain. In order to confirm axogenic effect of E2 in this model, hypothalamic neurons from male embryos of E15 and E16 were cultured with (10 and 100 nM E2) or without E2. After 48 h *in vitro*, neurite outgrowth was quantified by morphometric analysis. Hypothalamic neurons from E15 embryos had less ($p<0.001$) and shorter ($p<0.001$) minor processes than neurons from E16, according with age. Significant differences in axonal length were found due to gestational age and hormone treatment, with a significant interaction between the two factors ($p<0.001$ in all effects). At E16, hypothalamic neurons grown in cultures with 100 nM E2 had longer axons than neurons grown with 10nM E2 or without E2 ($p<0.001$), irrespectively of the gestational age. Neurons derived from E15 embryos showed no significant effects of E2. These preliminary data show that neuronal cultures of XY$^-$Sry mouse embryos are a good model to study the effect of gonadal hormones and *Sry* gene on E2-induced axogenesis in the developing hypothalamus at E16.

89.

PHYTOCHEMICAL SCREENING OF *Jungia polita* (ASTERAC.-MUTISIEAE), "ZARZAPARRILLA", "VIÑA"

Lucero C, Fusco MR, Sosa A, Petenatti EM.
Farmacognosia UNSL and Proyecto 8702, FQByF UNSL, Ej. de los Andes 950, San Luis. E-mail: mfusco@unsl.edu.ar

Jungia polita Griseb. (Asteraceae, Asteroideae, Mutisieae) is a rare specie from the Sierras centrales of Argentina and the Precordillera, from Córdoba, San Luis and La Rioja, to northern Jujuy. The popular name "zarzaparrilla" is by virtue of its similar habit with species of *Smilax*, and the "viña" ("vine") one because the aspect of their leaves. Both leaves and stems are used in popular medicine as a depurative and antiesclerotic. The present pharmacognostic and phytochemical study was carried out because exist scarcely bibliographical data about this plant. Different characterization reactions were made and some extracts (hexanic, dichloromethanic, chlorophormic and methanolic) were obtained; the last one have showed the presence of anthraquinonic heterosides, three flavonoids and one alkaloid; it is carrying out their partition with the aim of to isolate pure compounds and explaining its chemical structure.

90.

STUDY OF THE VIRULENCE OF *Yersinia enterocolitica* STRAINS ISOLATED FROM DIFFERENT FOOD SAMPLES IN SAN LUIS CITY

Lucero Estrada C, Di Genaro S, Velázquez L, Guzmán AMS de.
Microbiología Gral. Área Microbiología. Fac de Qca Bca y Fcia. UNSL. Chacabuco 917. 5700 San Luis. E-mail: cestrada@unsl.edu

The virulence of *Yersinia enterocolitica* results from a complex interplay between a series of chromosomal and plasmid-borne genes. The aim of the present study was to characterize some phenotypic and genotypic virulence markers of *Y. enterocolitica* strains isolated from food samples in our laboratory. A total of 35 strains of *Y. enterocolitica*, 33 local strains and 2 reference strains were studied. The following phenotypic tests were performed: autoagglutination (AA), calcium-dependent growth and Congo red absorption (CR-MOX), aesculin hydrolysis (Aes) and pyrazinamidase production (Pyr). Genotypic virulence markers were assayed by multiplex PCR for detection of *virF*, *ail*, *myfA* and *ystA* genes. The references *Y. enterocolitica* strains pYV (+), as well as 4 *Y. enterocolitica* 2/O:9 strains isolated in our laboratory, showed virulence-related phenotype and amplified every tested genes. One 3/O:5 strain isolated from pork sausage was AA^+ and exhibited the genotype $virF^- myfA^+ ail^+ yst^+$. One 1A/O:6,30 strain isolated from minced meat was negative for the Aes and Pyr tests. This strain, along with a 1A/O:5 strain isolated from pork sausage, showed a genotype $virF^- myfA^- ail^+ yst^+$. The remaining 25 B1A strains lacked phenotypic and genotypic virulence markers. The presence of potentially virulent strains in pork meat, pork products and other meat foods corroborates the suspicion that they could be the sources of infections with this species bacterium.

91.

PRELIMINARY STUDIES OF THE ACTION OF *Amaranthus hypochondriacus* IN THE SERUM OF THE RATS EXPOSED TO ETHANOL

Lucero López VR, Giménez MS, Escudero NL.
Fac Qca Bqca y Fcia. UNSL. IMIBIO-CONICET. 5700-San Luis. E-mail: vrllop@unsl.edu.ar

Consumption of chronic alcohol has been shown to enhance generation of oxidative stress. Amaranth is a pseudocereal that is used for its excellent nutritious quality. This is a good natural resource of antioxidant compounds, such as total phenols, flavonoids, anthocyanins. Natural antioxidants prevent oxidative stress. The present study investigated the effect of *Amaranthus hypochondriacus* (*Ah*) grain on lipid profile and antioxidant status in the serum of rats intoxicated with ethanol. Twenty-four male Wistar rats were divided into four groups. All groups were fed with AIN-93 M diet; in groups I and II casein was replaced for *Ah*; groups I and III were treated with ethanol by administration in the drinking water at concentration 20% v/v during 4 weeks. Were determinate: total cholesterol (TC), HDL-cholesterol, LDL-cholesterol, triglycerides (TG), GOT and GPT, by Clinical Química's Analyst Metrolab I model 2300 Plus and Thiobarbituric Acid Reactive Substances (TBARS) by method according to Draper HH and Hadley M (1990) in serum. Increased parameters in group III compared with group I: TC (mg/dl) III: 67.5±2.6, I: 51.8±7.1 ($p<0.001$); LDL (mg/dl) III: 35±7.9, I: 22.6±3.9; GOT (UI/L) III: 157.2±18.3, I: 107.6±38.4 ($p<0.05$) and TBARS (nmol/mL) III: 1.5±0.1, I: 1.1±0.1 ($p<0.05$). There were not changes in other parameters. The results suggest that the consumption of *Ah* appears to be beneficial by decreasing some lipids levels and oxidative stress caused by ethanol.

92.

MATERNAL EXPOSITION TO NaCl SOLUTION MODIFIES THE OFFSPRING'S FLUID BALANCE RESTORATION

Macchione AF, Vivas L.
INIMEC-CONICET, Córdoba. E-mail: amacchione@immf.uncor.edu

It has been reported that pregnancy history affects sodium homeostasis in adult offspring and might have consequences like taste driven alterations in NaCl intake. The experimental paradigm "Partial aortic ligation" (PAL) alters pregnancy environment thorough the endogenous activation of renin-angiotensin-aldosterone system. We studied sodium and water intake and Fos immunoreactivity (Fos-ir) brain pattern of adult offspring from rats that had been treated with 3 different experimental conditions: I) PAL: Ligation/0.45M NaCl/water access, II) SHAM: Sham Ligation/0.45M NaCl/water access, III) CONTROL: Sham Ligation/water access only. The offspring were sodium depleted by a combined treatment of furosemide (20mg/kg, sc) and sodium-free diet which induces hypovolemic thirst. Control group consumed larger amounts of water than PAL and SHAM groups. Furthermore, PAL offspring consumed smaller amounts of 0.45M NaCl than Sham or Ctrol groups (MANCOVA, $p<0.05$). Our results also showed a substantial minor activation (as shown by Fos-ir) within the supraoptic nucleus, in PAL group vs. the other groups. In conclusion, our data demonstrate a long term effect of maternal NaCl exposition, changing the offspring's mechanisms to regulate fluid balance.

Supported by ANPCyT and CONICET.

93.

DESINFECTATION METODOLGY OF *Schizachyrium condesatum* SEEDS *IN VITRO* CULTURE

Maidana M, Verdes P, Romero M, Leporati J.
PROICO 50307, FICES, UNSL.
E-mail: mmaidana@fices.unsl.edu.ar

The plant of *S.condesatum* lives primitive fields opened disappearing whese do agriculture.The inappropriate use of this pasture diminishes his quality and tend to disappear therefore it uses the biotecnology. In this work evaluated procedures of superficial disinfections with hypochlorite of sodium,alcohol 70% and liquid to delete funguses to control the pollution,the blackening of the tissue and arrive to establish the species in vitro, maintain the genes and quality of the same. Realized six treatments considering distinct time of exhibition.The analysis of data realized through the analysis of variance (ANOVA). The best treatments were the five and the six, 20 and 15 minutes of hypoclorite of sodium and alcohol to 70%, 10 and 15 minutes,where there was life of the plantets and main training of shoots. The rest of the treatments gave a high prices of pollution by funguses and bacteriums. It has attained establish the species in vitro to happen to one second stage that is the multiplication.

94.

APOPTOSIS INDUCTION DURING NEONATAL OBSTRUCTIVE NEPHROPATHY. EFFECT OF ROSUVASTATIN

Manucha W, Kurbán F, Bocanegra V, Abud MA, Benardon ME, Vallés P.
Área Fisiopatología, Fac. Cs. Médicas, UNCuyo, IMBECU-CONICET. Mendoza, Argentina.

Oxidative stress represents the common denominator of multiple cellular alterations and contributes to tubulointerstitial mechanism damage in neonatal unilateral ureteral obstruction (UUO). Proposed alternatives of protection to renal injury include statin, due to its effects decreasing oxidative stress and tubulointerstitial fibrosis. Recently, we have demonstrated an association between nitric oxide bioavailability and Hsp70 expression in UUO. **Objective:** We have evaluated possible antioxidant/antiapoptotic effects of rosuvastatin (Ros) during UUO in order to establish its nephroprotective effects. **Methods**: Neonatal rats (n=10) with and without UUO (OC and CC) and Rosuvastatin treated rats (10mg/Kg/d) for 14 days, were nephrectomized to evaluate in cortexes oxidative stress and apoptosis modulator markers. **Results**: After 14 days of obstruction, increased oxidative stress markers as lipid peroxidation (MDA) 90±5 vs 70±4 nmol/mL, NADPH oxidase activity (21682±234 vs. 8200±123 RUF/µg prot/min) whereas decreased Hsp70 expression (0.35±0.04 vs. 0.87±0.05) and lower endogenous nitric oxide levels 67±2 vs. 74±2 nM were shown. Conversely, Rosuvastatin administration increased Hsp70 expression linked to increase NO levels with absence of apoptotic response and decreased oxidative stress. **Conclusion**: These findings suggest that Rosuvastatin exerts citoprotective effects against apoptosis and oxidative stress through the NO restoration and upregulation of Hsp70 in neonatal unilateral ureteral obstruction.

95.

GENOTOXICITY OF GLYPHOSATE AND AMPA EVALUATED THROUGH COMET ASSAY IN BLOOD AND HEPATOCYTES OF TREATED MICE

Mañas FJ, Peralta L, García Ovando H, Weyers A, Ugnia L, Gorla N.
Fac Agron y Vet UNRC. E-mail: fmanas@ayv.unrc.edu.ar

Glyphosate is one of the most widely used herbicides in the world. AMPA is the major environmental breakdown product of glyphosate. The purpose of this study is to evaluate the *in vivo* genotoxicity of Glyphosate and AMPA using the comet assay in blood and hepatocytes of treated mice. Three groups of 4-6 Balb C mice were orally treated with Glyphosate (40 or 400 mg/kg/day) or AMPA (100 mg/kg/day) during 14 days. One group (5 animals) was used as a control, and only received sterile water in drinking water. Mice were sacrificed and comet assay was carried out with peripheral blood and hepatic tissue according to Singh (1988). One hundred nuclei were photographed for each treatment, and the images were analyzed using the software Comet Score®. The parameters used to quantify the DNA damage were Tail Moment, Tail length and percentage of DNA in the comet tail. For the three treatments (Glyphosate 40 or 400 mg/kg/day and AMPA 100 mg/kg/day), both in peripheral blood and liver tissue, statistically significant differences with respect to the control group were found in the three parameters used except for percentage of DNA in tail with the lowest dose of Glyphosate in hepatic tissue. The highest values of DNA damage were observed for the highest dose of Glyphosate (400 mg/kg/day). The results indicate that both Glyphosate as AMPA can induce damage to DNA in tissues of mice after oral exposure.

96.

ANALYSIS OF DENTO-ALVEOLO BONY PATHOLOGIES IN EXTINCT POPULATIONS FROM CATAMARCA AND PAMPA GRANDE (SALTA)

Martínez C, Batista S.
Fac Nat Sciences and Museum and FOLP UNLP.
E-mail: cristes@fibertel.com.ar

The main objective of this study is to identify and to classify the injuries of maxillaries at alveolus-dental level and to establish a comparison between both populations considering sex, age and dental group. 46 skulls in the collection of Catamarca studied and 20 were put aside as they were destroyed or were children. In the same way 25 studied calvariums and 2 skulls pertaining to the Pampa Grande collection, classifying by level of bony insertion in slight, moderate or severe disease , on both collections. In the skulls of Catamarca the greater degree of wearing down was observed in the later sector of adults masculine maxillaries (50%). In the alveolar bony resorption, the horizontal and vertical moderate form in adult men predominated 48% and horizontal moderate resorption 33%. In Pampa Grande was observed severe periodontal disease 73% and slight and moderate periodontal disease 27% without differences according to sex. Traumatic injuries stand out in both populations pre-mortem, dehiscencies, fenestras, and injuries of furcation with different degrees from wearing on coronal level as a result from the diet and/or technological manipulation since it is coincident with societies of mixed economy, influenced ethnographically.

97.

ESTIMATION OF AGE IN NATIVE SKULLS FROM CATAMARCA THROUGH DIFFERENT METHODS

Martínez CE, Flores OB, Silva DT.
Lab Bioantropología, Fac Cs Nat y Museo y Fac Odont UNLP. Personal Apoyo CIC. E-mail: cristes@fibertel.com.ar

The aim of this study was to assess the applicability of scopic method (cranial suture) and Lovejoy method (dental wears) to stimate native cranial age from Catamarca (from Collection Anthropology section of Nat Science Museum La Plata). In this study forty six skulls were studied but twenty of them were put aside as they were infants or had some pathologies. Scopic method study cranial closure sutures and Lovejoy method observed tooth wears based on patron model where tooth appears with different degrees of abrasion to determine ages in small groups. Scopic and Lovejoy methods coincided in twenty four skulls (90%). These methods present advantages as consider dental and bone elements that are easy to identify and they are well conserved for many years. The analysis allowed us to test the utility and precision of these methods in order to recommend certain simple diagnoses indicators that they make easier the determination of age in not documented human rests.

98.

OBTENTION OF FRACTIONS FROM AQUEOUS EXTRACTS OF *L. divaricata Cav*: PRODUCTION OF NITRIC OXIDE AND HYDROGEN PEROXIDE ON MOUSE MACROPHAGES

Martino R[1], Lapadula WJ[1], Casali YA[2], Davicino RC[1], Mattar MA[1], Micalizzi B[1].
[1]Cátedra de Inmunología, [2]Control de Calidad. Departamento de Bioquímica y Ciencias Biológicas. UNSL.

Larrea divaricata cav. it is known for its inmunomodulatory effects, especially upon the innate immune system. The purpose of this work was to test different effects of fractions from an aqueous extract of *L. divaricata "in vitro"*. NO and H_2O_2 production on mouse peritoneal macrophages was determinated. Decoction obtained at 10%w/v from dried leaves was used. The extract was lyophilized. It was re-suspended in chloroform and chromatografied in a column of silica gel using different chloroform/methanol mixes as mobile phase. Five fractions were obtained by evaporation and chromatographied by using thin layer. To treat macrophages, fractions F1, F2, F3 at 25 µg/ml and 100 µg/ml were used. The NO production was determined by Griess reaction. A significant decrease ($p \leq 0.05$) with F1 at both concentrations 25 µg/ml and 100 µg/ml was observed. F2 decrease ($p \leq 0.05$) NO at 25 µg/ml. The H_2O_2 synthesis was determinated using a peroxidase inhibitor (sodic azide). A significant increase ($p \leq 0.05$) with the three fractions at 100 µg/ml was observed. In conclusion, the three fractions obtained from *L. divaricata* stimulate the production of reactive oxygen compounds, and could increase the bactericide effects. The F1 and F2 show a possible anti-inflammatory effect, on mouse peritoneal macrophages.

99.

NASAL BEARING OF *Staphylococcus aureus* IN INDIVIDUALS COLONIZED BY VANCOMYCIN-RESISTANT ENTEROCOCCUS

Mattana C, Satorres S, Hasuoka R, Alcaráz L.
Área Microbiología, Fac Qca, Bioqca y Farmacia. UNSL. 5700 San Luis, Argentina. E-mail: cmmattan@unsl.edu.ar

Enterococci are part of human intestinal bacteria as well as other mammals and birds. In environments as hospitals they survive in carriers'hands, patients and inanimate surfaces. Their high resistance to several antibiotics allows them to survive and proliferate in patients under antimicrobial therapies. The resistance to Glycopeptide causes the loss of an important therapeutic alternative, and there is also the possibility of *in vivo* transference of such resistance to the *Staphylococcus*. Nasal swabbing was performed to research on the bearing of Vancomycin Intermediate
S. aureus (VISA) and Vancomycin Resistant *S. aureus* (VRSA) in 57 patients of a hospital in San Luis, colonized by Vancomycin-Resistant Enterococcus (VRE). Samples were seeded in salt agar manitol and incubated at 37ºC for 48 h. The sensitivity to vancomycin was determined by the CLSI norms, through the disk diffusion testing and the Minimum inhibitory concentration (MIC) determination. The Screening Test was applied to determine VISA according to CLSI. The reference strains were: *S. aureus* ATCC 29213, *E. faecalis* ATCC 51299 and *E. faecalis* ATCC 29212. 78.9% of patients were *S. aureus* carriers. Values between 2 and 4 µg/ml of MIC to vancomycin were observed. Although VISA or VRSA types were not found, the high percentage of nasal bearing of *S. aureus* and the simultaneous VRE colonization, could become an critical risk factor for the emergence of VISA or VRSA.

100.

CROSS-REACTION BETWEEN PROTEINS OF *Larrea divaricata* Cav. (JARILLA) AND BACTERIAL PROTEINS

Mattar de A MA, Davicino R, Martino R, Casali Y, Micalizzi B.
Fac Qca Bioqca y Fcia. Univ Nac San Luis. 5700 San Luis.
E-mail: blasmi@unsl.edu.ar

Larrea divaricata is employed to treat different pathologies. We aimed to characterize the cross-reaction of proteins from a partially purified crude aqueous extract (PPCE) of jarilla and whole cell-bacterial proteins (W-CBP) of *Escherichia coli*, *Pseudomonas aeruginosa, Proteus vulgaris* and *Klebsiella pneumoniae* using a mouse anti-PPCE serum. Proteins of jarilla were concentrated and partially purified by using membrane concentrators (Centriplus Amicon) with a 10 kDa cut off. Animals were immunized subcutaneously with PPCE. Levels of IgG against PPCE and W-CBP were determined. Bacterial proteins showed a strong reaction with the anti-PPCE serum. Cross-reactivity between proteins PPCE and W-CBP was studied by inhibition ELISA, using a poliyclonal antiserum specific for PPCE. Different concentrations of inhibitory proteins (PPCE and W-CBP) and antiserum were preincubated separately from the coated antigen. The antiserum dilution was previously determined by titration assays for each antigen: 1:1600 for PPCE, 1:800 for *P. aeruginosa*, *P. vulgaris* and *K. pneumoniae* and 1:1600 for *E. coli*. The binding of antibodies to PPCE was inhibited (>70%) by preincubation of the antibodies with 3.9, 15.6, 62.5, 250 and 1000 µg/ml of PPCE. When the polyclonal antiserum was preincubated with *E. coli*, *P. vulgaris*, *K. pneumoniae* and *P. aeruginosa* W-CBP antigens, an inhibition of approximately 65% was obtained. The stronger inhibitory activity was observed with *P. aeruginosa* whole cell antigens. These results demonstrates that the PPCE-specific antiserum cross reacts with components present in the W-CBP.

101.
MALDI-TOF IDENTIFICATION OF PROTEINS INVOLVED IN RAT ROSETTES ASSEMBLING *IN VITRO*
Monclus MA, Cabrillana ME, Fornés MW.
IHEM. Facultad de Ciencias Médicas, UNCU – CONICET.

Rat sperm association (Rosettes) observed *in vivo* at the distal portion of the epididymis may be related to sperm maturation and protection during their storage. This phenomenon, restricted to the epididymal *cauda* is not observed in *caput* or *corpus*. Proteins from epididymal fluid were fractionated by their sizes (gel filtration chromatography) and then by their affinity to Concanavalin A -ConA- (affinity chromatography). The fractions obtained were tested to assay their capacity to re-associate motile and isolated rat sperm *in vitro*, resembling the phenomenon observed in side the epididymis (*in vivo*). The fraction with the highest re-association activity was called **FR2 ConA affinity**, enriched in proteins with MW from 40-80 Kda. The MALDI-TOF analysis of this fraction identified 4 main proteins: Seric Albumin (always present as a contaminant); Transferrin (secreted in the epididymal caput); α-1-Antitrypsin and a new protein with a α-1-Antitrypsin like domain. These last 2 proteins belong to Serine Proteases Inhibitors (SERPINS) family. The role of these proteins in rat sperm association *in vivo* or *in vitro* still unclear. But their presence in caudal epididymal fluid lead us to propose a dynamic equilibrium between proteases, their inhibitors (SERPINS), sperm quiescence during the storage and a electron dense material joining sperm heads in the Rosettes.

102.
CHANGES IN SERTOLI AND GERM CELL NUMBER IN NEONATAL RATS
Morales A, Sciacca M, Cavicchia JC.
IHEM – CONICET. Fac Cs Médicas. UNCU.
E-mail: amorales@fcm.uncu.edu.ar

An adequate critical relationship between Sertoli and germinal population sizes must be established during foetal and neonatal periods because it is necessary for a normal spermatogenesis. Sertoli cells show abundant proliferation around birth but they maintain a stable population after puberty. On the other side, germ cells are represented by gonocytes located in the center of the cords at birth, and then migrate to the periphery, settle on the basal membrane, and give rise to spermatogoniae by mitosis. We studied cellular proliferation and apoptosis in both populations of testes of Wistar rats from birth to postnatal day 10. Testes were fixed and embedded in epoxi resin for light and electron microscopy. By light microscopy, cell counts were done in cross sections of seminiferous cords stained with toluidine blue. Since diameter of the cords change during the time of this study, results are expressed as indexes: mitotic or apoptotic figures per 100 total cells. During the first 7 days, the increase in the mitotic index is attributed to Sertoli cells, since gonocytes show few mitoses in the centre of the cord. However, from day 8 onwards, when gonocytes generate the first spermatogoniae, smaller basal cells, it was difficult to differentiate their mitoses from Sertoli ones. Germ cell mitoses seem to predominate considering the numerous spermatogoniae appearing in these days. About apoptosis index, there was a slight gradual increment but we couldn't attribute it to either population at all with our methods. By transmission electron microscopy distinctive structures in mitotic and apoptotic figures were recognized to identify their cellular lineages.

103.
***IN VITRO* INDUCTION OF CALLI IN *Eustachys retusa*.**
Morbidelli M, Verdes P.
PROICO 50307, FICES, UNSL. San Luis.
E-mail: peverdes@fices.unsl.edu.ar

Eustachys retusa, it is a gramineous one perennial, of summery cycle, considered of value good forrajero and importance good forrajera which is distributed in the north and center of the *Argentina.* In San Luis, in the pastizal and mountain mount, in the steppe graminosa and Bosque of Caldén. The formation of calli was evaluated in Murashige and Skoog medium with different concentrations of 2,4-D in light and dark. Two repetitions were made by treatment where in each one a plantet was sowed originated *in vitro* of *E. retusa.* The treatments were taken to cultivation camera where they received 25± 2ºC of temperature. It leaves of them they received fotoperíodo of 16 hours of light with 8 hours of darkness and the rest single darkness. After 16 days from the transplante to the hormonal media one observes formation of calli in the neck of all the plántulas, but alone the treatment with 2,4-D in concentration of 2 $mg.l^{-1}$ and light presented callus in the end of the root. To the 14 days the treatment with 2,4-D in concentration of 5 $mg.l^{-1}$ also presented formation of tripes in the raicilla. In the formation of calli´s *E. retusa* was not difference among the treatments.

104.
IN VITRO* ESTABLISHING OF *Eustachys retusa
Morbidelli ME, Verdes P.
Laboratorio de Genética, FICES, UNSL. San Luis.
E-mail: peverdes@fices.unsl.edu.ar

Eustachys retusa is one of the species of the family of the Poáceas with value forrajero that integrates the natural pastizales of the arid and semi-arid regions of our country. The objective of the work was to determine the concentration of the means of culture of Murashige and Skoog (MS) but appropriate to obtain the biggest *in vitro* germination of seeds and with better plántulas development. Three treatments were applied with 5 repetitions each one, these consisted in: half of cultivation of Murashige and complete Skoog, diluted MS $^1/_2$ and diluted MS $^1/_4$. Five seeds were sowed for repetition and they were incubated in growth room by 16 days, where the conditions were 25± 2°C of temperature and fotoperíodo of 16 hours of light and 8 hours of darkness. The treatment diluted MS $^1/_4$ achieved the biggest germination percentage and with the biggest number of leaves for plántulas, contrary to the other treatments that had smaller germination percentage and plántulas atrophied in its development. The high concentration of ions in the means of MS complete and diluted $^1/_2$ affection the germination of the seeds of E. *retusa* achieving low geminación percentages for a fitotoxicidad effect.

105.

EFFECTS OF D-PHENYLALANINE AND CLASSIC ANTIDEPRESSANTS IN AN ANIMAL MODEL OF DEPRESSIVE DISORDER

Moreno Adaro OF[1], Sabina L[1], Berríos C[1,4], García Menéndez S[1], Landa AI[1,4], Lafuente Sánchez JV[2,4], Mesones Arroyo HL[1,3], Gargiulo PA[1,3,4].

[1]Lab Neuroc Psicol Exp. (IMBECU-CONICET). FCM. UNCU. [2]Lab Neuroc Cl Exp (LaNCE). Upv. [3]As Arg Psiq (AAP). [4]NeuralNet. Prog Becas ALFA. Europea.

Some evidences have overlighted the relevance of D-aminoacids in the treatment of depressive disorder. They have been used in association with classical antidepressants. However, its effect has not been evaluated in an animal model of depressive disorder. The aim of this study has been the study of the effect of D-phenylalanine in the Porsolt forced swimming test, in a comparison with imipramine and fluoxetine. Male rats (240-290 g) of a Holtzman colony were used dividen in tour groups: control saline (n=9), imipramine (20 mg/kg, n=9), fluoxetine (10 mg/kg, n=10) and D-phenylalanine (30 mg/kg, n=10). Climbing behaviour was increased by imipramine when compared with saline ($p<0.05$) and fluoxetine o D-phenylalanine ($p<0.01$ in both cases). Swimming behaviour was significantly decreased by imipramine ($p<0.01$ vs fluoxetine), and clearly increased by D-phenylalanine ($p<0.001$ vs all other groups). We conclude that imipramine increased climbing behaviour, showing a classical noradrenergic profile, and decreasing swimming behaviour. Fluoxetine did not produce modification at the dose used. D-phenylalanine induced a very significative increase in swimming behaviour, showing a serotoninergic profile at the dose used.

106.

FORMULATION OF BIOCONTROL AGENTS: EFFECT OF SOME CRYOPROTECTANTS ON VIABILITY OF THE YEAST *Cryptococcus laurentii*

Navarta G, Calvo J, Benuzzi D, Sanz Ferramola MI.
Area Tecnol Qca y Biotecnología. Univ Nac de San Luis. San Luis.
E-mail: dbenu@unsl.edu.ar

Cryptococcus laurentii is an effective antagonist to the phytopathogen mould, *Botrytis cinerea*. To be of practical use, the antagonists must be formulated as products capable of conserving viability and efficacy of cells of biological control agents. The objective of this work was to compare the effect of freezing (-20°C) and the additions of different additives in combinations with skimmed milk (SM) as cryoprotectants for preserving the viability of *C.laurentii*. Yeast cells were produced on Yeast Glucose Medium (YGM). Dilutions of cells were plated in duplicate onto surface of YGM in Petri plates before and after freezing. The number of colony forming units was counted (CFU/ml) and percentages of survival were estimated. Statistical significance was set at $p= 0.05$. The survival from freezing in water is <0.2%. For use of 10% (w/v) SM the survival of *C.laurentii* was 9%. There was little or no effect when additives were used at 1% concentration. Survival of yeast cells was increased by using appropriate protectants containing combinations of SM and 5 or 10% of lactose (12 and 16% survival) or glucose (14 and 19.8% survival) and 10% sucrose (28.2% survival). Then, an appropriate selection of suspending medium is essential to optimize cells viability, in order to obtain a good formulation of microbial biocontrol agents.

Supported by SeCyT-UNSL 22/Q541.

107.

BACTERIAS RESPONSIBLE OF PHOSPHORUS SOLUBILIZATION AND NITROGEN FIXATION IN DIFFERENT SOILS

Nuñez S, Palma P, Damelli R.
PROICO 50307, FICES, UNSL. E-mail: snuniez@fices.unsl.edu.ar

The microorganisms of the soil are responsible for transformations of chemical compounds that act favoring the nutrition of vegetables. The objective was to study bacteria responsible of phosphorus solubilization and nitrogen fixation in different soils, to be inoculated in cultivation *in vitro* of native plants. It was worked with soils with matter organic 0,57% and 3,05%. Nitrogen: 0,04% and 0,250%.It was used modified NBRIP medium with apatite as phosphorus source. It was used a liquid medium with mannitol 1% for nitrogen fixers .Phosphobacterin were identified by colonies with halo of phosphorus solubilization of 3 mm. The nitrogen fixer bacteria in aerobiosis were identified by the observation at microscope and biochemical tests as belonging to the gender Azotobacter, only grew in richs. Isolated microorganisms were sowed in appropriate media for their conservation. In the different soils it was not observed differences in the phosphorus solubilization, but for the bacterial growth and nitrogen fixation was needed a soil with more quantity of organic matter.

108.

BENZODIAZEPINES PRESCRIPTION IN A SOCIAL SECURITY OF SAN LUIS

Panini A, De Pauw M, Rapisarda M, Calderón C.
Farmacología. Universidad Nacional de San Luis. San Luis.
E-mail: ccal@unsl.edu.ar

Benzodiazepines (BZ) have anxiolytic, sedative-hypnotic, muscle relaxant and anticonvulsant properties. Their use began in the decade of 1960 and has been on the rise mainly due to its anxiolytic properties. Having in mind that in a social security of San Luis, the prescription of BZ accounted for 23.8% of the drugs within the nervous system, our aim was to analyze it. An observational, cross-sectional, descriptive and prescription-indication study was carried out. Age, sex, diagnoses and prescriptions were recorded for a month (n: 2043). Drugs and diagnostics were classified according to ATC and ICD-10 classifications, respectively. Prescriptions (%): Sex: F 73, F 27. Age (years): <40 10.3, ≥40 to <70 69.5, ≥70 20.1. BZ: Alprazolam 46.8, Bromazepam 13.2, Lorazepam 8.3, Diazepam 5.4; Clobazam 2.4; BZ in combinations to fixed doses (CFD): trimebutina + Bromazepam 6.8, simethicone + Clebopride + Bromazepam 4.9, alprazolam+domperidone+other drugs 4.4, Dipotassium clorazepa-te+sulpiride 3.9. Indications: anxiety 37.3, hypertension 17, depression 7.3, dyspepsia 7.3, irritable bowel 6.8, insomnia 3.9, epilepsy 2.4, convulsions 2.4, other pathologies 15.6. BZ were prescribed mainly in women and between 40 and 70 years. Alprazolam, diazepam and bromazepam were the most prescribed, indicating mostly for anxiety, hypertension, depression, dyspepsia and irritable bowel. The excessive use of BZ and their addition in the treatment of hypertension and gastrointestinal problems, even more in CFD, indicate misuse of these drugs and involve potential risks to human health.

109.
MEDICINES CONSUMPTION STUDY AT A PHARMACY OF SAN LUIS

Panini A, De Pauw M, Calderón C.
Farmacología. Universidad Nacional de San Luis. San Luis. E-mail: ccal@unsl.edu.ar

Our aim was to determine and analyze the distribution by age and sex of concurred patients at a pharmacy of San Luis, consumed medicines, acquisition form, and health problems for which they were consumed. An observational, retrospective and cross-sectional study was carried out. The data were recorded for 3 months. The drugs and diagnoses were classified according to ATC and ICD-10 classifications, respectively. Results (%): Sex: F 57; M 43. Age (years): >14 94.9, ≤14 5.1. Diagnoses: hypertension (HT) 13.5, cough 6.7, gastritis 5.9, migraine 5, osteoporosis 5, influenza 5, varicose veins 5. Medicines: Nervous system (N) 25.7, Muscle-skeletal (M) 21.5, Metabolism (A) 19, Cardiovascular (C) 10.2, Dermatological (D) 7, Anti-infectives(J) 6. N: paracetamol 30.1, dipyrone alone or +ergotamine+caffeine 16.4. M: ibuprofen 49.2, diclofenac alone or +pridinol 24.6, piroxicam alone or +vitamin B12 8.2. A: omeprazole 7.4, vitamins +minerals 5.6, magnesium+vitamins+minerals 5.6. C: enalapril 24.1, benazepril+ amlodipine 13.8, atenolol 10.4, losartan 10.4. D: betamethasone+ miconazole+gentamicin 35, clotrimazole 20. J: amoxicillin 58.8; Combinations to fixed doses (CFD) 40.1. Acquisition: with prescription 29.8, without prescription 70.1 (prescription sale 71.7; over-the-counter sale 23). The number of adults and feminine sex was greater. HT, cough and gastritis were prevalent. The ATC groups N, M, A and C were the most used. There was high percentage of self-medication. Drugs with an unfavourable benefit/risk relation and high percentage of CFD of doubtful or null therapeutic value were used.

110.
EFFECT OF ETHANOL EXTRACT OF *Aristolochia argentina* ON UPPER GASTROINTESTINAL TRACT

Paredes J[1], Pereira SV[1], Wendel GH[1], Sosa A[2], Fusco M[2], Pelzer LE[1]. [1]Farmacología. [2]Farmacognosia. Fac Qca, Bioqca y Fcia. Univ Nac San Luis, 5700 San Luis. E-mail: gwendel@unsl.edu.ar

Aristolochia argentina (family Aristolochiaceae) is popularly know as "charrúa". The roots of this plant are used in folk medicine. Their infusions and tinctures are reputed to have diuretic, antidiarrheic, astringent and antihemorroidal properties. The present study was undertaken to investigate the effect of ethanol extract of *A. argentina* on small intestinal transit in mice and intestinal fluid accumulation in rats. Small intestinal transit was tested using the charcoal method. In control mice, 20 min after its intragastric administration, the charcoal meal travesed 54.44 ± 1.91% of the total length of the small intestinal transit. Ethanol extract (250 mg/kg) significantly inhibited small intestinal transit: 41.50 ± 1.51% (p<0.0001). Barium chloride induced increase peristalsis, ethanol extract did not inhibit this activity. The technique proposed by Robert *et al*. (enteropooling) evaluates the net accumulation of fluid in the lumen of the small intestine. The stimulation of fluid accumulation by castor oil (27.47 ± 1.65 mg/cm) was inhibited by ethanol extract (250 and 500 mg/kg: 13.2 ± 0.45; 20.15 ± 2.55 mg/cm; p<0.001, p<0.05). The present results suggest therefore that ethanol extract produces an inhibitory action on gastrointestinal functions: motility and secretion, and favors its antidiarrheal activity. Experiments are in progress to identify the active chemical constituent(s) and to clarify the antidiarrheal activity of *A. argentina*.

111.
EFFECT ON GASTRIC ACID SECRETION OF METHANOLIC EXTRACTS OF *Acacia visco* IN RAT

Pedernera AM[1], Guardia T[1], Guardia Calderón CE[2], Pelzer LE[1] [1]Farmacología, [2]Bromatología. Fac Qca Bqca y Fcia. Univ Nac San Luis. 5700 San Luis. E-mail: tguardia@unsl.edu.ar

In previous studies we showed antiinflammatory and antiulcerous gastric activity for leaves and bark methanolic extracts of *Acacia visco* Biocell Vol 28 (3), 2004. The aim of this study was to asses the effect of leaves (MEL*Av*) and bark (MEB*Av*) methanolic extracts from *Acacia visco* on gastric acid secretion in rat (Shay *et al*., 1945). Female Wistar rats, (160-200g) with water *ad libitum* and deprived of food for 24 h were anesthetized, the ligature was perfomed 0,5-0,7 mm below the pylorus. Rats were divided into four groups and orally treated as follows: G1 saline (control), G2 MEL*Av* 300 mg/kg, G3 MEB*Av* 300 mg/kg and G4 ranitidine (reference) 50 mg/kg. All animals were deprived of water and food for the rest of the experiment. Animals were killed four hours later, a ligature placed at the esophago-cardicac junction was perfomed and their stomachs removed. The gastric content was collected and centrifuged, supernatant volumes were measured and acid concentration was estimated by titration to pH 7 with 0.1 NaOH using an automatic titrator. Statistical analysis by ANOVA test. Acidity was expressed as µEq/ml. MEL*Av* and MEB*Av* at the dose effective as anti-ulcerogenic in rats, did not inhibit the secretion of gastric acid. The volume of gastric content did not show significative difference compared to the control group. In conclusion this results suggest that MEL*Av* and MEB*Av* exerts an effective antiulcerous activity without modifying gastric acid secretion.

112.
GENE EXPRESSION IN *Helicobacter pylori* BIOFILM

Persia FA, Vega AE, Cortiñas TI, Silva HJ.
Área Microbiologia. Univ Nac de San Luis. Chacabuco y Pedernera. 5700 San Luis. E-mail: aevega@unsl.edu.ar

The formation of biofilm by *Helicobacter pylori* is important in enhancing resistance to host defense factors, antibiotics and adverse environmental conditions. Quorum sensing is a bacterial mechanism for regulating gene expression in response to changes in population density. The aim of this study was analyzed the gene expression of *H. pylori* during biofilm formation in glass and poliestirene surfaces. Reference strain NCTC11638 was grown in Mueller-Hinton Broth (MHB) supplemented with a) 5% fetal calf serum as reference and b) 0.5% alternative supplement of microbial origin. The cultures were incubated under microaerophylic conditions for 196 h at 37ºC. The virulent genes *ure*A, *fla*A, *omp*18, *lpx*D; the *lux*S gene that encodes autoinducer type 2 which is important for cell-to-cell signaling and 16SRNA as housekeeping gene were analyzed. For RNA extraction, the confluent growth on the two abiotic surfaces was treated with TRIzol reagent. cDNA was performed with random hexamer and 200 U Moloney murine leukaemia virus reverse transcriptase. The results obtained showed a higher expression of *lux*S and virulent genes of *cells* into the biofilm than *H. pylori* planctonic cells. The study found no statistical differences in gene expression for both surfaces and media assayed. The ability of *H. pylori* to form biofilms on abiotic surfaces and different nutritional conditions, while maintaining the expression of virulence genes may explain its potential to survive in the environment acting as a source of transmission with conserved pathogenicity.

113.

COMPARATIVE HPLC PROFILES OF THE "VALERIANS" OF THE CUYO REGION PHYTOMEDICINE, ARGENTINA

Petenatti ME, Gette MA, Petenatti EM, Del Vitto LA.
Herbarium/Proyect 8702, 22Q/616, FQByF-UN San Luis, D5700HHW San Luis, Argentina. E-mail: mepetena@unsl.edu.ar

The British Herbal Pharmacopoeia codifies *Valeriana officinalis* and proposes a technique for the assay of the valerenic acid, taking in mind that it includes valerenic acid, acetoxyvalerenic acid, hydroxyvalerenic acid and valerenal. In the present work the codified technique was used in order to verify its validity for the local species of *Valeriana* (*V. stuckertii*, *V. polybotrya* and *V. ferox*), like also tablets made with dry extract of *V. officinalis* by two Argentine laboratories, with the aim of contribute to the quality control of regional phytomedicines. Dilutions methanol:water for each species and tablets was analyzed in an HPLC Gilson with detector DAD, with column C-18, 5 µm, 4,6 xs 250 mm and methanol:phosphoric acid 0,5% (80:20) like mobile phase, obtaining the respective chromatograms, which show differentials "fingerprints" for each taxa and tablets of dry extract of *V. officinalis*. By means of the analysis of the characteristic tips it is possible to infer that the codified method constitutes an excellent tool in the quality control of the regional phytomedicines ellaborates with these products.

114.

EFFECTS OF ABA AND 1-MCP OVER YIELD AND GRAPE COMPOSITION OF *Vitis vinifera* cv CABERNET SAUVIGNON

Quiroga AM, Cavagnaro JB, Bottini R.
CONICET-Fac Cs Agrarias, Universidad Nacional de Cuyo, Chacras de Coria, Mza. E-mail: aquiroga@fca.uncu..edu.ar

Previous reports showed that foliar sprays of abscisic acid (ABA) 250 ppm to Cabernet Sauvignon grapevines increased yield without affecting grape composition. The effect was related with a higher number of berries per bunch, implying avoidance of the natural abscission of flowers and young fruits during berry set supposedly via ethylene inhibition. Such an effect can be obtained with chemicals like 1-methylciclopropene (1-MCP) that restrains ethylene's action. The aim of this work was to evaluate the effects of cluster sprays of ABA and 1-MCP over yield and grape composition in Cabernet Sauvignon grapevines under field conditions with no soil water restriction. Solutions with 100 ppm of 1-MCP were applied with two frequencies: one application at flowering (MCP 1), and 6 weekly applications since flowering (MCP 6). ABA treatments were applied at 50 and 250 ppm, this last concentration with two frequencies: 6 applications since flowering (ABA 250) and weekly applications since flowering until harvest (ABA 250 TC). The MCP 6, MCP 1 and ABA 250 TC treatments significantly enhanced grape yield; however only MCP 6 significantly increased the number of berries per bunch. ABA 250 TC showed the maximum anthocyanin levels and total polyphenol index during all the maturation and harvest stages.

115.

COMPARATIVE STUDY OF THREE METHODOLOGIES (KARYOTYPE, FISH AND MLPA) IN PATIENTS WITH FEATURES OF 22q11.2 DELETION SYNDROME

Ramirez J[1], Echeverría MI[1], Mampel A[1], Marino M[2], Marzese D[1], Gallardo A[3], Schroh A[4], Nazar G[5], Arce CR, Calderón EA[1], Roqué M, Vargas AL[1]
[1]Inst Genética, FCM, UNCuyo; [2]Lab ADN, FCM, UNCuyo [3 4] Serv Inmunlogía y Cardiología Htal H Notti; [5]Área Psiquiatría, FCM, UNCuyo. E-mail: j.ramirez@fcm.uncu.edu.ar

The 22q11.2 deletion syndrome has been usually diagnosed through karyotype and FISH. Recently, a multiplex ligation-dependent probe amplification kit assay has been developed to detect deletion/duplication of the 22q11.2 region and other chromosomal regions associated with DiGeorge/ velocardiofacial syndrome. This new methodology allows the relative quantification of different target DNA sequences in a single reaction. We have compared the results of these three techniques in patients with clinical diagnosis compatible with 22q11.2 syndrome deletion. The MLPA results were concordant in patient with positive FISH for deletion in the studied region. However, this novel technique solved one case that showed microduplication in a sequence target (FLJ14360) that was undetermined by cytogenetic study and FISH. MLPA has proven to be a highly sensitive and accurate tool for detecting copy number changes in the 22q11.2 region, making it a fast and economic alternative to currently used methods.

116.

MICROBIOLOGICAL CONTROL OF VIAND SANITARY-CONDITIONS

Ramos G, Castagnolo B, Gimenez B, Marchesi S.
Area Microbiología , FCM -UNCU. Mendoza.

Introduction: The Código Alimentario Argentino establishes in its Article 151 the microbiological especifications for viands. The consumption of processed food in modern societies is increasing day by day, that is the reason why it is necessary for official organisms to provide consumers better microbiological controls. The objective of this work is the microbiological control of the sanitary conditions of viands processed in diverse eating places in the Mendoza Province. **Methods:** a) Sampling: a total number of 40 samples were analized. b) Microbiological analises: investigation of Escherichia coli, Staphylococcus aureus, Salmonella sp, and Clostridium perfringens was carried out. **Results and conclusions:** The testings gave as a result a 27% positive for Clostridium perfringens and 21% for Salmonella sp., Staphylococcus aureus and Escherichia coli., therefor these figures show us that a 48% of the products were not fit for consumption, though due to the fact that we have not carried out the bacterial counting of each species. we cannot ensure that theymay produce intoxication. The results obtained allow us to establish that the contamination of the food is due to incorrect manipulation and that meat is the raw material having hgher riskssince C. perfringens was isolated in viands whose main ingredient was meat.

117.

DETECTION OF *Escherichia coli O157:H7* AND NON- *E. coli O157:H7* PRODUCERS OF STEC IN LETTUCE PROCEEDING FROM PUBLIC MARKETS IN MENDOZA

Ramos G, Rüttler M, Castro N, Porta M, Pizarro M, Castagnolo B, Moreno A, Sagua M.
Area Microbiol, Fac Cs Med, Univ Nac Cuyo.

Escherichia coli O157: H7 and the *E. coli* producers of the Shiga (STEC) toxin are emergent pathogens having worldwide distribution which produce a diarrheic syndrome followed by acute extra-intestinal consequences that compromise life. In order to investigate the possible environmental sources of the reservoir it must be taken in consideration the limitations of the traditional concept that considers the colon of warm blooded animal as the normal habitat of the *E.coli O157*. Water can also be considered as a potential vehicle in the contamination of vegetables that is why lettuce has been especially implicated Evaluation of the frecuency of contamination of lettuce with *E coli O157 and non – E coli O157*. Relation of the contamination of the lettuce with its place of origin and irrigation water. The methodology used is the one proposed by the Manual of Proceedings for the detection of *Escherichia coli* producer of the Shiga toxin of the ANLIS –Malbrán , 2006 Up to the moment 23 heads of lettuce have been studied and suspect colonies for *E.coli: O157 H7* have been found in 9 samples and for non-*E. coli O157/H 7* in 12 samples two positive samples have been obtained from the investigation of STEC whit PCR. So far we have evidence that *E. Coli* STEC does in fact contaminate lettuce as proven whit our studies. With further analysis we hope to determine the frecuency of contamination of lettuce in our region using a greater sample study.

118.

SOY ADMINISTERED IN HYPERCALORIC DIET MODIFIED THE TRIGLYCERIDES OF RAT LIVER

Razzeto GS, Escudero NL, Giménez MS.
Departamento de Bioquímica y Ciencias Biológicas. IMIBIO-SL, CONICET. Universidad Nacional de San Luis. Argentina
E-mail: grazzet@unsl.edu.ar

Preliminary study in our laboratory show that administered hypercaloric diet to normal male Wistar rats produces changes on the lipidic metabolism The aim of this work is to evaluate the effect of vegetal protein (soy) respect to animal protein (casein) on the lipids in serum and liver when administered AIN-93G diet modified (hypercaloric). A lot of twenty male Wistar rats (21 days old) were separated in two groups: one control, fed with AIN 93G (CD), and a problem group was fed with the modified AIN-93G (containing 34,146% sucrose, 42% of calories from fat), during 9 weeks. Then they were separated in 4 lots: 2 lots of control group control casein (CC), control soy (CS) y 2 lots of problem group: casein hypercaloric (CH), soy hypercaloric (SH) and fed 45 days. At the end of the feeding period, animals were anesthetized and sacrificed. Serum and liver were isolated. frozen in liquid nitrogen. Total cholesterol (TC), cholesterol HDL, cholesterol LDL and triglycerides (TG) were determined in serum. In liver were measured total proteins, total lipids and total free and esterified cholesterol, TG and phospholipids (PL). The results showed that in serum TC decrease in CS (75.75 ± 4.86 mg/dL) in relation to CC (95.00 ± 5.66 mg/dL) ($P < 0.05$) and in liver TG decrease in SH (2949.73 ± 141.71 µg/g tissue) in relation to CH (4212.54 ± 690.31 µg/g tissue) ($P < 0.05$). The results indicate that protein vegetal could regulate the amount the TG when is administrated in a hypercaloric diet.

119.

Hsp25 AND Hsp70 EXPRESSION IN NEONATAL OBSTRUCTIVE NEPHROPATHY

Rinaldi Tosi M, Montt Guevara MM, Vallés P, Vargas-Roig L.
IMBECU, CCT CONICET Mendoza, 5500 Mendoza.
E-mail: rinaldi@lab.cricyt.edu.ar

Chronic and complete unilateral ureteral obstruction (UUO) in the neonatal rat causes delayed renal maturation, tubular apoptosis, and interstitial inflammation. This obstruction induces oxidative stress in both the obstructed (O) and the contralateral unobstructed (CL) kidney. Experimental evidences have shown that there exists an interrelationship between Hsp25, Hsp70 and redox status. In the present study we examined the expression of these Hsps in control (C), O and CL kidneys. Neonatal rats were subjected to UUO (n=5) within the first 48 h of life. After 14 days of obstruction, animals were sacrified and their kidneys were decapsulated and removed. The expression of Hsps were studied by immunohistochemistry and western blot. In C (n=4), Hsp25 was observed mainly in the cytoplasm of collecting ducts in inner medulla. Hsp25 expression was not induced in O kidney. In C kidney, Hsp70 expression was observed in the cytoplasm of a high percent of tubular epithelial cells in cortex. The expression of Hsp70 in C kidneys was weakly in most of the tubules in outer medulla, whereas in the papilla intense staining of collecting ducts was noted. In O kidney we did not observe increased expression of Hsp70. In CL (n=2) kidneys a high hsp70 expression was observed in tubular epithelial cells of cortex and in papilla. Conclusion: We demonstrated Hsp70 upregulation in contralateral cortex tubular cells, suggesting a possible cytoprotective role of this chaperone in obstructive nephropathy.

120.

PSYCHOPHARMACOEPIDEMIOLOGY IN MENDOZA TODAY

Rodríguez CI, Kaiser L, Riestra E, Fader EL, Manassero C, Dalmau G, Jait A, Rodríguez Echandía E.
UFURM -Área de Farmacología, FCM, UNCuyo.
E-mail: ceirod@hotmail.com

Present observational and retrospective study analyses prescription of psychiatric drugs in hospitals "El Sauce" and "Dr Carlos Pereyra" during the years 2003-2007. The objective was to evaluate similarities, differences, and rationality of prescriptions related to patients psychiatric diagnosis. The data were obtained from each Institution using the WHO methodology through an EPI INFO program recommended for the Studies of use of medicines. Consumption of hypnotics drugs increased significantly during the 2003-2007 period in both hospitals. A similar increasing pattern was observed in anxiolytic drug consumption but differences were found in some specific anxiolytic compounds, i.e. alprazolam consumption increased in "El Sauce" hospital, while in "Pereyra" hospital decreased. However, lorazepam consumption increased in both hospitals. Regarding antidepressive drugs, sertraline consumption was increased with a parallel decrease in fluoxetine prescription in both hospitals. A similar trend was observed with atypical neuroleptic drugs (risperidone). Regarding the anticonvulsive drugs its consumption was stable in "El Sauce" hospital but was increased in "Pereyra" hospital. In both hospital phenobarbital was the more used drug. These data can provide some rationale to promote regulatory and preventing interventions in health institutions in order to surveillance the psychiatric drug prescriptions.

121.

WEEDS BELONGING TO *Asteraceae* FAMILY PRESENT IN NATURAL GRASSLANDS AND CROPS IN SAN LUIS (ARGENTINA)

Rosa EB[1], Mercado SE[1], Scappini EG[1]
[1]Fac. de Ing. y Cs. Econ.-Soc. UNSL. San Luis.
E-mail: erosa@fices.unsl.edu.ar

Weeds identification is necessary before professionals and producers decide any type of control. Antecedent studies were based on other published previously upon *Heterotheca latifolia* distribution, weeds present in irrigated areas, parks, and gardens as well as those studies conducted on toxic weeds. The aim of this paper is to catalogue those weeds that belong to the *Asteraceae* family that we have surveyed and documented. Gathering was conducted in natural grasslands, crops as barley, rye, corn, wheat, in parks, gardens and horticultural crop fields, under irrigated and non irrigated conditions. Determinations were carried out consulting the specific bibliography on the subject, and corresponding duplicates were sent to specialists for confirmation. The studied material was documented in the "Herbario de la F.I.C.E.S. -U.N.S.L." (VMA). On the basis of the conducted field studies, and bibliography as well as herbarium consultating, we conclude that –to date-27 specific and infraspecific taxa were recognized, belonging to 21 Genera: *Baccharis, Cotula, Gamochaeta, Gaillardia, Bidens, Centaurea, Xanthium, Verbesina, Cirsium, Carduus, Solidago, Conyza, Sonchus, Wedelia, Heterotheca, Taraxacum, Flaveria, Galinsoga, Helianthus, Tragopogon, Gnaphalium*; 8 of them are considered dangerous plagues for agriculture and 4 have been reported as toxic for cattle or suspected of causing animal poisoning.

122.

ASSOCIATION BETWEEN MICROALBUMINURIA AND HYPERTENSION IN PATIENTS WITH TYPE 2 DIABETES

Rúa M, Rastrilla AM, Ojeda MS.
Facultad Qca, Bqca y Fcia-UNSL. Chacabuco y Pedernera. 5770 San Luis. E-mail: msojeda@unsl.edu.ar

Type 2 Diabetes Mellitus (DM2) is the most common cause of end-stage renal disease and the major risk factor for cardiovascular disease. Near 50% of the diabetics type 2 will develop micro-albuminuria (MA) during the first ten years from the diagnosis of disease and whitout a specific intervention. The presence of MA is the most important predictive signal of renal and cardiovascular damage. Our objetive is to determine the association between MA and essential hypertension in patients with DM2. A descriptive cross-section study was made in patients with DM2 with more ten a year of evolution (patients with bacteriuria and haematuria were excluded). MA was defined as the presence of 30 to 300 mg of albumin in urine of 24 hours. The relationship of MA with hypertension, body mass index (BMI), lipid profile a was assessed by univariate analysis. In our study poblation, 62.5% was hypertensive and 25% of patients hypertensive had MA, 35% showed high levels of uric acid and 25% increased uremia. 22% of the diabetics population have a BMI greater than 30; 59.4% presented hypertriglyceridemia; 62,5% presented high levels of total cholesterol. MA in Type 2 diabetic patients is associated with hypertension. This association may represent a risk factor for cardiovascular disease and may contrubute to the progression of renal disease.

123.

GLUTAMATERGIC IONOTROPIC BLOCKADE WITHIN ACCUMBENS ALTERS THE WORKING MEMORY AND THE ENDOCYTIC MACHINERY IN AREAS OF RAT BRAIN

Ruiz AM[1], Baiardi G[2], Beling A[1], Borgonovo J[1], Martínez G[2], Landa AI[2], Gargiulo PA[2], Sosa MA[1].
[1]IHEM, [2]Laboratorio de Neurociencias y Psicología Experimental, IMBECU. UNCuyo.

The effects of N-methyl-D-aspartic acid (NMDA) and non-NMDA glutamatergic receptors blockade were studied on the performance in the hole board test in male rats cannulated bilaterally into the nucleus accumbens (Acc). Adult Holtzman rats, divided into 5 groups, received 1 µl injections of either saline, 2-amino-7-phosphonoheptanoic acid (AP-7) (0.5 or 1 mg) or 2,3-dioxo-6-nitro-1,2,3,4-tetrahydrobenzo-(f)quinoxaline-7-sulphonamidedisodium (NBQX, 0.5 or 1 mg) 10 min before testing. A significant increase in ambulatory movements (0.5 mg; $p<0.05$), non-ambulatory movements and number of movements (1 mg; $p<0.05$); sniffing and total exploration (1 mg; $p<0.01$) was observed in the rats after treatment with AP-7, whereas NBQX did not induce behavioral changes. When the holes were considered in order from the first to the fifth, the AP7 group increased the number of explorations to the first and second hole (the most visited) with respect to the saline group ($p<0.05$ for 0.5 mg and $p<0.001$ for 1 mg of the drug). When the second hole was compared with the first of his group, a difference was only observed in the 1 mg AP-7 group ($p<0.001$). Increasing differences between the other holes and the first were observed in the rats treated with AP-7. At molecular level, it was observed that AP-7 induced an increase of the coat protein AP-2 expression in Acc, but not AP-180 neither the synaptic protein synaptophysin. The increase of AP-2 was also observed in the medial prefrontal cortex by the action of AP-7. No changes were observed in the rats treated with NBQX. We conclude that NMDA glutamatergic blockade might induce an activation of the endocytic machinery into the Acc, leading to stereotypies and perseverations, lacking cortical intencional direction.

124.

EFECTS TO DIFERENTES KINDS OF SALTS IN THE GERMINATION OF *Digitaria californica*

Ruiz M[1], Barcena N[2], Terenti O[3].
[1]EEA INTA San Juan, [2]CONICET. [3]EEA INTA San Luis.
E-mail: moruiz@sanjuan.inta.gov.ar

Digitaria californica or silvered grass is a perennial forage grass, with short rhizome. They appear in tropical and subtropical lands of South America. In Argentina is found in the northeast in the andean district from Jujuy to Mendoza. Our making solutions of NaCl, KCl, $_2NaSO_4$, $_2KSO_4$, obtaining de -0.5, -1, -1.5, -2.0 y -2.5 Mpa osmotic potentials (Ψo). The seeds were planted in Petri dishes on paper, they were watered with 4ml of solution and were incubated at 25°C. Its design was at random with four repetitions, daily for 20 days, the number of germinated seeds were counted, with the data obtained the percentage and the speed of germination (ERI) was calculated. The data was analyzed by ANOVA and by the Tuckey test. The percentage of germination supports a high decrease in response to the increment of Ψo to -0,5 to -1 for Na_2SO_4, K_2SO_4 solutions. This result suggests that this specie has a high sensibility to the sulfate in the solution. The rest of the solutions look a big drop in the germination when de Ψo change for -1 to -1,5 Mpa. At -2 Mpa the germination doesn´t take place. This specie could germinate at middle concentrations (-0,5 y -1 Mpa) to KCl, NaCl and manitol, with germination percentage around 70%. However, this specie doesn´t resist -1 Mpa water potential to sulfates solutions or solutions to low concentrations to -1 Mpa. The speed of germinations looks the same pattern whit high drop at water potential less than -1 Mpa.

125.

Cenchrus ciliaris: RESPONSE TO STRESS DURING GERMINATION

Ruiz M[1], Barcena N[2], Terenti O[3].
[1]EEA INTA San Juan, [2]CONICET. [3]EEA INTA San Luis.
E-mail: moruiz@sanjuan.inta.gov.ar

Cenchrus ciliaris is a perennial forage grass from Africa and the midle east of Asia, they have a fast growing with life span around 50 days. This specie has been introduced in a lot of areas of the world because is a good tolerant to dry and hot temperatures. The objective of this work was to determine if this specie resist stress conditions in a most sensitive stage of our life span: the germination. Our making solutions of NaCl, KCl, $_2NaSO_4$, $_2KSO_4$, obtaining de -0.5, -1, -1.5, -2.0 y -2.5 Mpa osmotic potentials (Ψo). The seeds were planted in Petri dishes on paper, they were watered with 4ml of solution and were incubated at 25°C. Its design was at random with four repetitions, daily for ten days, the number of germinated seeds were counted, with the data obtained the percentage and the speed of germination (ERI) was calculated. The data was analyzed by ANOVA and by the Tuckey test. The interaction between solution and concentrations was statistically significance with a p-value of ≤0.001.This interaction. This interaction as a result of the germination in the manitol solutions was higher than in the other solutions at potencials waters below to -1 Mpa. The germination speed response in a similar way looks a high diferences between salts and manitol solutions. This specie showed the ability to germinate in high dry stress conditions, searching values near the 50% of germination in the below Ψo (-2 y -2.5 Mpa). Potentials which few species can tolerate.

126.

INFLAMMATION IN CEREBRAL CORTEX INDUCED BY CADMIUM IN WISTAR RATS

Russo MG, Biaggio V, Santillan L, Giménez MS.
FQByF, Universidad Nacional de San Luis.
E-mail: marcosgrusso@hotmail.com

It has been observed that cadmium causes changes in the level of expression of genes involved in inflammatory disorders of different types cell in cerebral cortex. In this work was studied in cerebral cortex, the effect of cadmium on the expression of inflammatory (TNFα and VCAM-1), and anti-inflammatory (PPAR-γ) parameters, also measured the expression of iNOS and parameters of oxidative stress (TBARS and NO). Our experimental model consisted of adult-male Wistar rats subjected to 15 ppm of cadmium in drinking water (Cd group) and without this (group CO). The total RNA was extracted by the method of TRIzol and levels of RNAm quantified using RT-PCR, the TBARS were quantified according Jentzsch *et al*., 1969, and the levels of NO using the reaction of Gries, Schulz et al., 1999. We observed a significant increase in TNFα (CO: 0.795±0.034; Cd: 0.899±0.053 p: 0.0168) and VCAM-1 (CO: 0.302±0.106; Cd: 0.56±0.056; p: 0.0053), but there was no significant difference of PPAR-γ (CO: 0.495±0.069; Cd: 0.561±0.06; p: 0.207); the TBARS increased significantly in the group Cd (CO: 0.346±0.02; Cd: 0.613±0.024; p: 0.0001); the expression of iNOS was representative in the group Cd (CO: 1.106±0.087; Cd: 1.284±0.08; p: 0.0244) but the levels of NO were significantly lower in this (CO: 1.568±0.053; Cd: 0.758±0.022; p: 0.0001). We concluded that Cd produces inflammation in cerebral cortex, as well as oxidative stress, induces the expression of iNOS but reduces the levels of NO due to the strong oxidizing environment in the cell interior.

127.

PHOTORECEPTORS MODULATE COLD AND LIGHT STRESS TOLERANCE IN _Arabidopsis thaliana_

Sáez J, Berli F, González C, Bottini R, Boccalandro H.
Fac Cs Agrarias, Univ Nac Cuyo, Luján de Cuyo, Mendoza.
E-mail: jsaez@fca.uncu.edu.ar

Plants can detect light signals associated to open or shadowed environments using at least three photoreceptor systems: phytochromes, cryptochromes and phototropins. Coincidence of light and cold is a stressful situation, which can provoke oxidative damage in leaves, conducing to a photo-inhibition phenomenon. Our goal was to study whether perception of light signals associated to open environments by photoreceptors induce acclimation to tolerate a cold and light stressful event, at seedling and adult stages. We found that at seedling stage cryptochromes (cry1; cry2) and phototropins (phot1; phot2) induced acclimation to high light and low temperature. We further studied the role of these photoreceptors at adult stage. WT, *phot1phot2, cry1cry2* and phytochrome (*phyB*) double and single null mutants were grown during 35d in a growth chamber at 20±2ºC, 16h photoperiod, under white light. Plants were exposed or not (control) to low temperatures (0-2ºC) during 11h (8h in darkness followed by 3h in light). Cold and light produced higher oxidative damage in mutants of *phyB* (pigment destruction, higher malondyaldehide(MDA) and electrolyte leakage) and *phot1phot2* (higher MDA), in spite of their higher antioxidant activity. Unexpectedly, *cry1cry2* double mutant presented no oxidative damage, nor turgescency loss, as WT plants experienced when subjected to the cold and light treatment. In brief, light perception by photoreceptors is important to acclimate to stressful conditions, both at seedling and adult stage.

128.

EVALUATION OF PARAMETERS IN MODERATE ASTHMATIC PATIENTS TREATED WITH TWO DIFFERENT TREATMENTS

Sagua MD, Elías C, Garófoli A, Telechea A.
Áreas Microbiología y Farmacología, Fac Cs Médicas. UNCuyo.
E-mail: mdsagua@yahoo.com

The aims of this study are: 1-Determine the treatment in two groups of patients with moderate asthma: I group with LABA (long action broncodilatator) and fluticasone (IC), II group with ciclesonida (IC) and salbutamol PRN 2-To perform forced spirometry and System of Impulse Oscilometry (IOS) 3-To evaluate bacterial colonization in induced sputum 4-To determine the colonization with fungi into oropharynx cavity 5-To compare bacterial infection in exacerbated patients 6) To know life quality by means of ACCT inquery. We have studied 28 patients, 13 corresponding to I group and 15 to II group. The respiratory parameters by spirometry (FEV1 and FEV1%) and IOS were into the hoped values for this patients and all of them have bronchial reversiblity >12% and >200ml after 400 mcg of salbutamol. *B.catarrhalis* was isolated 3 times in I group and 3 in II group, *S.pneumoniae* 3 ans 2 times respectively and *H.influenzae* 2 and 1. There was oral colonization by *Candida albicans* of 44% in I Group and 30% in the other group. The ACCT has demostrated that in spite of the isolation of pathogen oportunist microrganism in the sputum of asthmatic patient there was not a single case of exacerbation in both studied group.

129.

BIODIVERSITY OF PLANKTON AND MICROPHYTES IN HIGH LAND OF CENTRAL ANDES IN SAN JUAN, ARGENTINA

Sanabria E, Quiroga L, Giannoni S, Borghi C.
Dpto. Biología. UNSJ, CONICET.
E-mail: sanabria_ea@yahoo.com.ar

The biodiversity of high land in central Andes in San Juan is poor know. In January of 2007 we collected samples of plankton (PL) and microphytes (MP) in different environment types (Lotic and lentic water resources). For the samples, we used the drag net to 53µm and PL was conserved in alcohol 70% and MP in formalin 4%. Eight point was sampled, two in the river (Lentic), three in creeks (Lentic) and three in vegas (Lotic); all point was upper 3500 msn m.

We calculated the Shannon-Winner diversity index for each environment measurement. The mean diversity of PL was 1.14±0.09 and MP was 0.49±0.14, diversities was different in all samples exist more species of MP than PL (Mann Whitney U=2.68, $p<0.007$). The diversities of PL and MP not repot differences in relation to environment sampled ($X^2=0.04$; $p>0.05$ and $X^2=0.09$; $p>0.05$). The lentic and lotic environments not repor diferences in the number to species for MP and PL (Chi-Squere, $p>0.05$). We report in this study carried out in high land in the Nor-west of San Juan Province a total of 20 species of PL and 60 species of MP.

130.

DECREASED LOWER-LEG LEAN MASS BY DXA IN DUCHENNE DISEASE CARRIERS: A PILOT STUDY

Saraví FD, Mampel A, Marzese D, Roqué M, Echeverría MI.
FUESMEN; Inst. Genética e IHEM-CONICET, Fac Cs Méd, UNCuyo, MZ 5500, Mendoza. E-mail: synerges@yahoo.com.ar

Duchenne/Becker muscular dystrophy (DMD) is caused by mutations in the dystrophin gene at Xp21 and therefore affects males. In these males, a lower bone mineral content and lean mass, and a higher fat mass, have been found by several methods, including dual X-ray absorptiometry (DXA). Women are carriers, yet in them subtle biochemical and structural alterations (e.g., elevation of serum creatine phosphokinase and a degree of gastrocnemius pseudohypertrophy) have been found. We assessed whether DXA may be used for screening women with suspected DMD carrier status. Whole body DXA scans (GE Lunar Prodigy) were performed in five known carriers and five healthy women paired by age. Two carriers had 2 affected sons each. The other 3 had 1 affected son each, and carrier status confirmed by Multiplex Ligation Probe Amplification. Values are means (SEM).A $p > 0.05$ was deemed significant. In this small sample, no significant difference was found in height, body mass, total bone mineral density, total lean mass or fat mass. Total bone mineral content fell just short of significance ($p = 0.058$). An analysis focused on the lower legs showed the same trend for bone mineral content ($p = 0.067$). Most important, in this body region fat-free soft tissue mass, known to correlate with muscle mass, was lower in carriers than in controls; respectively 2885 (150) g vs. 3456 (170) g, $p = 0.036$. These results warrant further exploration of lower-leg DXA analysis as a screening tool for DMD carrier status.

131.

***Fasciola hepatica* IN HORSES OF MENDOZA PROVINCE, ARGENTINA**

Sidoti L, Deis E, Cuervo P, di Cataldo S, Imbesi G, Cáceres A, Mera y Sierra RL.
Facultad de Ciencias Veterinarias, UMAZA.
E-mail: fasciola@gmail.com

Fasciolosis is an economically important disease of domestic livestock, in particular cattle and sheep, and occasionally man. The disease is caused by digenean trematodes of the genus *Fasciola*. Horses are recognized as reservoirs in other parts of the world but there are no publications describing the disease in horses from Argentina. Our objective was to investigate the presence of *Fasciola hepatica* in horses where the disease is known to be endemic in ruminants. In August 2008 in a farm in Lujan, Mendoza, where cases of fasciolosis had been diagnosed in sheep, goats and cattle, 7 horses where sampled. The faeces where retrieved directly from the rectum. In the laboratory, the following techniques were done: Sheathers sugar flotation, Formalin-Ether sedimentation and Lumbreras rapid Sedimentation. *Fasciola hepatica* eggs where found in 3 horses (43%), strongyle eggs in 3 horses (43%). This is the first report of Fasciolosis in horses in Mendoza province, Argentina. Since there is an important horse population in the province which is used for sport, transport, recreational and agricultural activities, this disease should be taken into consideration and further studies should determine the roles of horses in the epidemiology of fasciolosis in Mendoza surrounding provinces.

132.

INSULIN RESISTANCE AND CETP POLYMORPHISM IN FIRST DEGREE RELATIVES OF PATIENTS WITH DIABETES MELLITUS TYPE 2

Siewert S, Gonzalez I, Raguza V, Filipuzzi S, Ojeda MS.
Facultad Química,Bioquímica y Farmacia, UNSL.
E-mail: msojeda@unsl.edu.ar

Insulin Resistance (IR) is a central metabolic alteration The Cholesteryl Ester Transfer Protein (CETP) transports esters of cholesterol from the HDL to lipoproteins containing apo B. To study the association between the polymorphism of the CETP gene and IR in first degree relatives of patients with DMT2. We analyzed 36 samples of both sex. We performed the following measurement: BMI, waist circumference (wc), waist to hip ratio (W/H). We determined: insulinemia (RIA), blood glucose and lipid profile (Wiener kit). We estimated the insulin sensitivity and beta cell function using the HOMA-IR and HOMA-β Cell. The alleles were identified by PCR-RFLP using the enzyme Taq IB. Analysis of the polymorphism showed that the genotypes frequencies of B1B1: B1B2: B2B2 were 27.7%, 55.5% and 16.6% respectively. Among the three genotypes no observed statistically significant difference in age, weight, WC, BMI and LDLc. Between the B1B1 and B2B2 genotypes there was significant difference in W/H, Insulinemia, HOMA-IR, HOMA-β Cell, CT, TG and HDLc. We conclude that individuals with B1B1 genotype have greater association with IR and low HDLc, which is a risk factor for developing cardiovascular disease and DMT2.

133.

COGNITIVE EFFECTS OF NORADRENERGIC RECEPTORS ANTAGONISM IN NUCLEUS ACCUMBENS

Soria G, Serrano L*, García S, Landa AI, Lafuente Sánchez JV, Baiardi G, Gargiulo PA.*
*(*Equal contribution).*

Noradrenergic receptors are distributed in several structures of the brain such as nucleus accumbens (Acc), the major component of ventral striatum. In this study we evaluate the interaction of beta 1 receptors in the Acc and memory mechanisms. It was used a group of animals stereotaxically implanted into the Acc. One week after surgery, rats were placed in a passive avoidance task. In the first part of this test, animals were somited to an electric shock in a black chamber which is next to a white one, both separated by a little door.The rats receive saline, Atenolol 1µg/µl or Metoprolol 1µg/µl ten minutes before training (acquisition or pretraining schedule) or immediately after the shock (consolidation or posttraining schedule). One day later, animals were placed into the white chamber and the door was removed.The time taken between the removal of the door until the introduction of the head into the dark chamber (latency 1) and the rat placing four feet onto the grill (latency 2) was recorded. The number of fecal boli expelled durign the training and the retrieval were counted in both experiments. Atenolol treatment significantly modified latency 1 ($p<0.01$) and latency 2 ($p<0.01$) in pretraining schedule and latency 2 ($p<0.05$) in post training schedule. There was not significant differences between saline controls and metoprolol injected rats. Our results sugest that antagonism of beta 1 adrenergic receptors in Acc mediated by atenolol disrupts aquisition and consolidation of memory.

134.

MOBILIZATION OF CALCIUM IN MOUSE SPERM BY EXPOSURE TO GLUTAMIC ACID. ASSAYS IN SINGLE CELL

Soria MG, Treviño CL, Darszon A, Fornés WM.
IHEM, Facultad de Ciencias Médicas, UNCuyo. Mendoza.
E-mail: msoria@fcm.uncu.edu.ar

The functions of Glutamic Acid (Glu) as excitatory amino in the Central Nervous System as well as their receptors have been well stablished. But little is known of its presence and function in mouse sperm. We report here, the ability of Glu to induce the acrosome reaction (AR) in dose dependent manner. It is well established that the AR is preceded by an increment within the sperm cell of the intracellular calcium concentration ($[Ca^{2+}]i$). Our goal was to detect whether different Glu concentrations were capable to increase $[Ca^{2+}]i$ and to resolve this change spatio-temporally. For this purpose we perform single cell experiments with adult mouse sperm evaluated individually, by means of fluorescence microscopy assisted by a CCD camera and acquisition software (ANDOR IQ). Increases in $[Ca^{2+}]i$ were detected after a few seconds upon Glu addition, and its effect lasted several minutes, the concentrations used ranged between 0.1 and 500 µM Glu. Our results suggest a possible role of Glu during sperm physiology.

135.

PHARMACOGNOSTIC STUDY AND DESIGN PHARMACEUTICAL SEMISOLID FORMS FROM *Rosa eglanteria* L.

Sosa A, Fusco M, Ortega C, Arce S, Martinez D.
Facultad de Qca, Bqca y Fcia, UNSL. Chacabuco y Pedernera. 5700 San Luis. E-mail: asosa@unsl.edu.ar

Rosa mosqueta is a wild shrub growing in some specific areas of Central Europe and the Andean region. Despite fairly scarce literature can be found composition end characterization of chemicals occurring in this oilseed, beneficial-health and cosmetic properties of its extracts have been transmitted and tapped by natives for centuries; these properties could be in part attributed to the considerable vitamin C content and phenolic compounds.The aim of this work was to analyze the content of the fruits and seeds of rose mosqueta and to design a pharmaceutical semisolid forms from them. Samples were collected in a San Martín, Potrero de los Funes y Volcán of San Luis province. Its fruits possess a high concentration of flavonoides, tanines, saponinas, glucidos and Vitamin C. The content of Al, Ca, Na, Cd, Co, Cr, Cu, Fe, K, Li, Mn, Ni, Pb, and Se was determined by flame atomic emission/absorption spectrometry. Prior to analyses of the samples (fruits and seeds), a digestion procedure was optimized. The analytical results obtained from the solid sample were highly satisfactory. Emulsions, creams and the gels designed from the essential oil of rose mosqueta presented a high behavior reologico.

136.

DETERMINATION OF CADMIUM AT ULTRA-TRACE LEVELS BY CPE-MOLECULAR FLUORESCENCE COMBINED METHODOLOGY

Talío M, Luconi M, Masi A, Fernández L.
Fac. Qca., Bqca y Fcia, UNSL-INQUISAL-CONICET. 5700 San Luis. E-mail: lfernand@unsl.edu.ar

Trace heavy metals are considered to be one of the main sources of pollution since they have significant effect on its ecological quality. Cadmium is very important in environmental and biological sciences; it is highly toxic even at low concentrations, causing damages to organs such as the kidneys, liver and lungs. A highly sensitive micelle-mediated extraction methodology for the preconcentration of trace levels of cadmium as a prior step to its determination by molecular fluorescence has been developed. Metal was complexed with o-phenanthroline (o-phen) and eosin (eo) in buffer Tris medium pH 7,6 and quantitatively extracted into a small volume of the surfactant-rich phase of PONPE 7.5 after centrifugation. The chemical variables affecting cloud point extraction (CPE) were evaluated and optimized. The calibration for Cd(II)/o-phen/eosina was**:** $y = 7\ 109\ [Cd^{2+}] + 4{,}635$; $R2 = 0{,}9592$; LOD: $3{,}90 \times 10^{-3}$ mg L^{-1}; LOQ: 0,013 mg.L^{-1}. The method presents good sensitivity and selectivity and was applied to the determination of trace amounts of cadmium in water samples with satisfactory results. The proposed method is an uncommon application of CPE-luminescence to metal analyze, and comparable as for sensitivity and accuracy to atomic spectroscopies.

137.

MICROBIOLOGICAL RESEARCH OF LAVALLE'S WATER

Telechea A, Juez R, Degarbo S, González J, Soria D, Arenas G.
Microbiologia. F C Médicas, U N Cuyo. Mendoza, Argentina.
E-mail: atelechea@yahoo.com

The population of zones of Lavalle's department (Mendoza) is provided with water of different origins. They do not possess containers for the transport and storage adapted and do not carry out any type of treatment to improve the characteristics of the same one. The difficulty that they have to obtain water, transport and preservation, is aggravated by the lack of resources and of sanitary education of the settlers. The aim of this work was to study the microbiological characteristics of this vital element. There decided the parameters established in the Food Argentine Code and the method of filtration was in use principally for membrane. 22 samples were gathered, in the District El Retiro and in the District San Miguel 8. Of them, 12 were of cans brought of other places, 5 of well, 2 of rain, 2 of river (Rio San Juan) and 1 of lagoon. The obtained results were: inventory of total aerobic bacteria mesophile up to 500 ufc/100ml (100%), attends of *Escherichia coli* (55%), other enterobacterias (36%) *Pseudomonas aeruginosa* (41%), *Pseudomonas spp* (100%), compatible morphology with protozoans (50%). We conclude that the water that there arrange the settlers of these places constitutes an important risk for his health and that it should give a satisfactory short-term solution.

138.

HPLC PROFILES OF NATIVE PROPOLIS SAMPLES FROM CUYO REGION, ARGENTINA

Teves M, Gette MA, Petenatti ME, Del Vitto LA.
Herbario/Proyecto 8702 and 22/Q616, FQByF UNSL, Ej. de los Andes 950, San Luis. E-mail: maurote@unsl.edu.ar

The gum-resins secreted for the leaf buds dormancy of *Populus* x *canadensis* Moench. cv. "I-214" (Salicaceae) are used by honey bees with a source for elaboration of the propolis. We gathered two samples of propolis in Mendoza and San Luis provinces, and were compared with gum-resins for HPLC Gilson. The ethanolic extracts were prepared (500 mg of gum-resin + 5 ml of 80% ethanol) and were shaken for 10 min at 70ºC, and 2 g of each propolis with 25 ml of 80% ethanol and shaken at 70ºC for 30 min. After extraction, were centrifuged, and the supernatant was used for analysis. The chromatograph is equipped with a column Gemini (RP-18, column size 4.6 x 250 mm; particle size 5 µm) and photodiode array detector. The column was eluted by using a linear gradient of water (solvent A) and methanol (solvent B), starting with 30% B (0-15 min) and increasing to 90% B (15-75 min), held at 90% B (75-95 min) and decreasing to 30% B (95-105 min) with a solvent flow rate of 1 ml/min. The chromatograms were recorded at 268 nm. The comparison of the absorption spectra showed a similarity in the retention time.

139.

ANTIDIARRHEAL ACTIVITY OF *Rhizophora mangle* L.

Teves M[1], Wendel G[1], Sánchez Perera L[2], Pelzer LE[1]
[1]Fac Qca Bqca Fcia, Univ Nac de San Luis, 5700 San Luis; [2]CENSA, Cuba. E-mail: gwendel@unsl.edu.ar

Several curative properties are attributed to *Rhizophora mangle* L. (Rhizophoraceae), such as antidiarrheal, antidysentery, astringent, antifungal, antibacterial and hemostatic activities. The effect of the aqueous extract was investigated in mice on small intestinal transit, experimentally induced diarrhea and intestinal fluid accumulation (enteropooling). The plant was collected in Caibarien, Cuba. Fresh bark with distilled water in 1:7.5 proportions was boiled for 20 min. The plant material was separated by filtration and the aqueous extract was concentrated and lyophilized for preserve it. Condensed and hydrolysable tannins are major active principles of this aqueous extract. Oral administration the extract 250– 500mg/Kg reduced small intestinal transit. Propranolol (2,5mg/Kg) and verapamilo (5mg/Kg) did not influence *per se* small intestinal transit but antagonized significantly (p<0.001) the effect of extract. This effect was not influenced by yohimbine (1mg/Kg) or atropine (0,25mg/Kg). The extract (250–500mg/Kg) decrease the frequency of defecation and severity of diarrhea (p<0.01-0.001) induced by castor oil (Izzo et al.) The method of intestinal fluid accumulation is based on that of Robert *et al.* The pretreatment with the extract (250mg/Kg) decreased the volume (ml) of intestinal fluid secretion induced by castor oil compared with control (p<0.01). The results obtained approve the popular use like antidiarrheal, due to its inhibitory effects on propulsion and intestinal fluid accumulation. The antagonist effects of verapamil and propranolol suggest a role for the β-adrenergic system and subtype L ion channels Ca^{+2}.

140.

RESPONSE OF WHEAT TREATED WITH ABA AND *Azospirillum* TO WATER AND SALT STRESS

Travaglia C, Wolters E, Reinoso H.
Universidad Nacional de Río Cuarto, X5804ZAB Río Cuarto, Argentina. E-mail: ctravaglia@exa.unrc.edu.ar

The plant hormone abscisic acid (ABA) controls stomatal closure, reducing water stress. Plant growth-promoting bacteria of the genus *Azospirillum* enhance general plant growth and confer resistance to salt and water stress. The purpose of this study was to evaluate the growth of wheat plants treated with *A. brasilense* CD (*Az*), ABA, and their combination under water stress and salt stress under natural photoperiod. The emerged seedlings were inoculated with *Az* on roots before sowing in pots and sprayed with ABA at the beginning of shoot enlargement and at anthesis. Water and salt stress were imposed from ten days after sowing by reducing irrigation to 20% of the evapotranspiration of the previous day and by weekly irrigation with ClNa solution (from 0.085 to 0.2 M), respectively. Seventy days after sowing, total biomass, content of photosynthetic pigments, cellular membrane stability, and stomatal behaviour were evaluated at 1.00 p.m. Although the effect depended on the type of stress imposed, results indicate that both ABA and *Az* enhanced the growth of wheat plants. Under water stress, in most of the variables analyzed, the combination of treatments did not modify their individual beneficial effect, whereas under salt stress the combination improved the effect of the individual treatments.

141.

SELECTION OF VARIABLES RELEVANT TO THE PRODUCTION OF ENZYMES IN CULTURES OF *Aspergillus japonicus* ON GRAPE POMACE

Vallejo MD, Martin ML, Correa ML, Gouiric S.
Faculty of Engineering-UNSJ, 5400 San Juan.
E-mail: mvallejo@unsj.edu.ar

The filamentous fungi grow on solid substrates producing enzymes to degrade many of them, like agro-subproducts or solid waste. There are few published studies about production of enzymes on grape pomace. The aim of this work, was produced hydrolytic enzymes in solid state fermentation using red grape pomace as a substrate. We studied the variables that affect the enzymatic production, using a statistical design of Placket-Burman. Were tested a strain of *Aspergillus japonicus*. The variables were: moisture (H), particle size (ps), initial pH, mixed (M), time of cultivation (t), temperature (T), and additions of nutrients such as glucose, tannic acid, SO_4NH_4, and PO_4Na_2. Four enzyme activities were determinated: cellulase, xylanase, pectinase and tannase in aqueous extracts from fungus culture. The production of cellulases was favored by pH and T and disadvantaged by M, the xylanases were favored by H, t and adding SO_4NH_4 and disadvantaged by M and T, the pectinases were positively affected by t, ps and M and the tannases were positively affected by PO_4Na_2, T and SO_4NH_4, no variable to negatively affect the latter enzymes.

142.

USE OF LIODI-INDEX TO ESTIMATE THE CONSERVATION VALUE OF PLANT COMMUNITIES IN SAN FRANCISCO DEL MONTE DE ORO, SAN LUIS

Vázquez ML, Moglia MM, Lijteroff R.
Dept Bioquím Biol Fac Quím Bioquím Farm, Univ Nac San Luis, 5700 San Luis. E-mail: mmmoglia@.unsl.edu.ar

The plant communities integrate many environmental variables, summarize the floristic diversity and imply ecological relations. For this, the valuation of the same ones is important in the studies of environmental impact. In this work, Loidi's index was implemented for valuing the plant communities of San Francisco del Monte de Oro, with purposes of conservation, in the area affected by the construction of the dam on the Río Claro. With this aim, We selected representative sites of the flora and the vegetation in (I) Area to flooding, and (NI) Area not to flooding, across satellite images. Phytosociological relevés were taken using Zurich-Montpellier methodology. In detected communities there was applied the Index of valuation of Loidi (modified). This index considers the following criteria valued for ranges of 1-10: naturalness (N), replacement (P), vulnerability (T), floristic-Phytocoenologic value (F), rarety (R) and territorial need of protection of the ecosystem (E). With these 6 values the new one was obtained: the Interest for the conservation (CI), which was calculated for the different communities. Among these, which would need major protection according to (CI), they are that of the palm grove (CI=16) and the saxicoles (CI=15). The utilization of this index increases the objectivity in the evaluations of the degree of threat of the communities, which up to the moment have been realized in a more subjective way.

143.

EFFECTS OF ALLIUMS ON OXIDATIVE STRESS AND INFLAMMATION IN AN EXPERIMENTAL MODEL OF METABOLIC SYNDROME

Vazquez M, Renna N, Gonzalez S, Lama C, Miatello R.
FCM. UNCuyo. IMBECU-CONICET. Mendoza.

Dietary factors play a central role in prevention of cardiovascular disease. The aim was to evaluate the effect of allium consumption: garlic (G) and onion (O) extracts on blood pressure (BP), vascular remodeling and adipocytokines expression in an experimental model of metabolic syndrome (FFR). Fifty rats were randomly divided in 5 groups (n=10 in each group): Control (C), FFR (administration of 10% fructose solution as drinking water during a 14 wk protocol); FFR+G (150mg/kg/d), FFR+O (400mg/Kg/d), and FFR+T (1mM tempol, used as antioxidant control) during the last 8 weeks. Biochemical determinations, blood pressure (BP), oxidative stress assay, histological and optic microscopy analysis and western blot analysis were performed. FFR increased their BP, glycemia, triglyceridemia and insulin ($p<0.05$ v C). G, O and T treatment only prevent the BP increase. NAD(P)H oxidase activity in aorta and plasma TBARS levels increased in the FFR. Groups receiving allium extracts and tempol did not show changes in oxidative status. Significant increase in vascular remodeling was observed in mesenteric and heart arteries from FFR, compared to other groups. Adipocitokyne expression in mesenteric adipose tissue did not vary. Data provide evidence indicating that allium consumption prevents the increase in BP, the oxidative stress, and vascular remodeling in and experimental model of metabolic syndrome.

144.

REGULATION OF MAST CELL ACTIVATION: EFFECT OF A NOVEL SEMISYNTHETIC BUTENOLIDE

Vera M, Mariani ML, Ceñal JP, Fogal T, Piezzi RS, Penissi AB.
IHEM-CONICET, Facultad de Ciencias Médicas, UNCuyo, CC56 (5500) Mendoza. E-mail: apenissi@fcm.uncu.edu.ar

The present study was designed to examine the effects of a novel semisynthetic butenolide with anti-ulcer and anti-inflammatory properties (3-benzyloxymethyl-5*H*-furan-2-one, BMF) on mast cell activation induced by the calcium ionophore A23187. Peritoneal mast cells from male adult Sprague-Dawley rats were purified in Percoll, preincubated in the presence of BMF and then challenged with the mast cell activator A23187 (9 μM). Concentration-response and kinetic studies of mast cell serotonin release evoked by A23187, evaluation of mast cell viability and morphology by light and electron microscopy, comparative studies using ketotifen, and drug stability analysis by thin layer chromatography (TLC) were performed. Serotonin release studies, carried out together with morphological studies, showed the effectiveness of BMF to stabilize mast cells. The comparative study with ketotifen, a well known mast cell stabilizer, showed the following order of potency: BMF$\geq$ketotifen to inhibit mast cell serotonin release induced by A23187. The present study provides the first strong evidence in favour of the hypothesis that BMF inhibits A23187-induced serotonin release from peritoneal mast cells, acting thus as a mast cell stabilizer. Our findings may provide an insight into the design of novel pharmacological agents which may be used to regulate the mast cell response.

145.
BIOTECHNOLOGY AND PUBLIC PERCEPTION
Verdes P, Lartigue C, Romero M.
Laboratorio de Genética, FICES, UNSL.
E-mail: peverdes@fices.unsl.edu.ar

The revolution of the DNA has brought significant advances in diverse fields of the life. The knowledge in this scientific area is increased in exponential form and every time is bigger the breach that exists with the different teaching levels, consequently with the community in general. Under this context, was made interviews directed to a public with different academic formation. The level of knowledge it has more than enough organisms genetically modified and the used sources of information, were evaluate. It was determined that the scarce scientific information that can arrive to the society, added to the distortions and holes of the educational system, they make that the imaginary community generates conceptions many distorted times. The ignorance and ignorance leads to misleading ideas. Even many professionals and educational, they lack own approaches and for ende of a formed opinion, due to the ignorance of the topic. Also concludes that the acquisition of erroneous previous knowledge, due to the disinformation or manipulated information, forms the base of the pseudo-conocimiento. The massive means of communication are the main generators of these erroneous previous ideas that are generated in the individuals without an appropriate scientific instruction, and in general loaded with biases and lacking of scientific sustentation. Before this panorama other approach roads and access are imposed to the scientific-technological advances.

146.
***IN VITRO* PLANT REGENERATION IN *Aloysia polystachya* (GRISEB.) MOLD**
Verdes P, Guida N, Romero M, Lartigue C.
PROICO 50307, FICES, UNSL.
E-mail: peverdes@fices.unsl.edu.ar

A. polystachya (Gray.) Mold. is a species that possesses essential oils with multiple properties and in spite of their wide geographical distribution, the extractive exploitation starting from spontaneous communities presents the inconvenience of the heterogeneity so much in the chemical composition as in the productivity of the material one and it doesn't assure a continuous supply of the product. To establish a strategy of efficient propagation that allows the multiplication genotipos clonal or select quimiotipos, their micropropagación began. Presently work was evaluated the nutritious media with salts minerals and vitamins of Murashige and Skoog (1962), diluted 1/4 (MS/4), semisólido (agar 0.65%), added with 5 $g.l^{-1}$de sucrose and the following regulators of growth: NAA and BAP in different concentrations (0, 0.1, 0.5, 1 $mg.l^{-1}$). It was determined that the *in vitro* culture of nodal segments, as initiation organ, doesn't require of hormones of growth added to the culture media. On the other hand, the multiplication of leaves requires of the hormonal combination rehearsed in the treatment NAA 1 $mg.l^{-1}$: BAP 1 $mg.l^{-1}$. An attractive aspect of this system developed for A. *polystachya* is the high capacity of regeneration of the evaluated explantes, still in absence of regulators of the plant growth, being necessary bigger studies that allow to clarify the physiologic mechanisms involved in this process morfogénico.

147.
MICROPROPAGATION OF *Lippia turbinata* GRISEB
Verdes P, Guida N, Lartigue C, Romero M.
PROICO 50307, FICES, UNSL.
E-mail: peverdes@fices.unsl.edu.ar

The native aromatic-medicinal species are very used, for their vegetable active principles. This use and the increment of their demand imply that these biological resources are vulnerable to the harvest pressure and market economies, taking place losses of diversity genotípica. The present work establishes a methodology of propagation clonal of *Lippia turbinata* Griseb. The physical-chemical conditions were evaluated required in the different stages of the micropropagation, besides the explanto type, disinfection methodology, nutritious media, and acclimatization conditions. The treatments that showed better results, in the different stages of the micropropagación were the following: in the disinfection of the explantos using the following sequence of disinfectant: soapy water (10 min), sodium hypochlorite 20% (4 min), ethanol 70% (2 min) and 2-metoxycarbamoil)-benzimidazol 0,05% (5 min.). While the multiplication stage was observed with the nutritious media´s Murashige and Skoog (1962), diluted 1/4 (MS/4), semisólido (agar 0.65%) and added with 5 $g.l^{-1}$de sucrose, with low concentrations (0.1 $mg.l^{-1}$) or absence of NAA and BAP. The acclimatization stage was successful when the sustrato was a vermiculita mixture, sand and soil with high organic content (1:1: 2). Presently work is demonstrated that this micropropagation estrategy is to feasible way by means of the *in vitro* culture, obtaining high multiplication rates.

148.
INTESTINAL PARASITES IN CHILDREN OF OUTLYING CENTERS OF SAN LUIS' CITY
Verdugo RA, Ampuero VE, Lapierre AV, Rodríguez GB, González LE.
Parasitología y Micología. UNSL, 5700 San Luis, Argentina.
E-mail: luergonz@unsl.edu.ar

Intestinal parasites are common in developing countries affecting mostly infants in primary school age. This work tries to determine the prevalence and social risk factors that predispose to intestinal parasites in various peripheral centers (infantile dining rooms) of San Luis' city in relation to a central hospital of great concurrence (Complejo Sanitario San Luis-CSSL). A comparative analysis between the parasites detected in these infants was carried out. The samples were obtained along with questionnaires that included personal and social data. A total of 439 samples were collected over a period of three years, making them was for three consecutive days and were studied through analysis of coprology, using Carles-Barthelemy´s enrichment technique, and the Graham´s method. It was found that 44% of children were infected with one or more species of enteric parasites, in relation to 31% detected in CSSL. Enterobius vermicularis was the most common of the helminthes: 23% (2% CSSL), followed by Hymenolepis nana 1.4% (2% CSSL). Giardia lamblia protozoan was the most frequent: 12.8% (7% CSSL), followed by Entamoeba coli, 5% (17% CSSL). The results of this work show a lower percentage of intestinal parasites in central zone (CSSL) in relation to peripheral areas (outlying centers), and increase the importance of hygiene education in these fields to achieve a reduction in the transmission of these infections.

149.

HYPOTHYROIDISM AS A CAUSE OF HYPERTENSION

Verdugo RA, Trujillo L, Orellano G, Wendel G, Fuentes L.
Farmacología. Facultad de Química, Bioquímica y Farmacia, UNSL, San Luis 5700. E-mail: rodverd1@yahoo.com.ar

Thyroid hormones influence the cardiovascular system, and thyroid dysfunction may increase the risk of cardiovascular disease. Hypothyroidism is relatad to an increased risk of functional cardiovascular abnormalities, such as hypertension. This work examines the association between hypertension and hypothy-roidism. Cross-sectional, retrospective and descriptive studies were designed. A total of 1064 individuals were recorded at a cardiologic center (2006-2007). Data abstracted from clinical history included: age, sex, hypertension (HTA >140/90 mm Hg), and thyroid function tests: TSH, T_4 and T_3. The investigation involved 646 patients, (60.3%) with HTA (26.2% men), and 270 (25,4 %) with known hypothyroidism (60 men: 210 women). Ages ranged from 20 to 80 years (mean: 54.4±0.50). Systolic and diastolic blood pressure (SBP-DBP) in hypothyroid pacients by age (< 40; 41-49; 50-59; > 60 years) was studied. There was an important increase in SBP (140,6-166,6 mmHg) and TSH (2,6-6,1µUI/ml) with age (Average: SBP 4,87mmHgper TSH µUI/ml). DBP was highest in the 4th decade (99.2 mmHg). Serum T_4 (7,6-6,7 µgr/dl) and T_3 (8,1-0,89ngr/ml) decreased with age. High prevalence of hypothyroidism in our patients was detected. Decrease of serum T_4 and T_3 suggest the lack of blood pressure regulation which could be responsible for the hypertensive state. Patients with HTA should be investigated for the possibility of coexisting hypothyroidism. We found a positive association between TSH and SBP that may have long-term implications for cardiovascularhealth.

150.

ASSOCIATION BETWEEN URIC ACID AND METABOLIC SYNDROME

Verdugo RA, Daquino EB, Rosso NE, Fuentes L.
Farmacología. Facultad de Química, Bioquímica y Farmacia, UNSL, San Luis 5700. E-mail: rodverd1@yahoo.com.ar

Metabolic Syndrome (MS) is a major magnitude medical problem that has associated to high uricemia values, it is an important component the risk of cardiovascular disease. For that reason we analyze the existence of a relationship between MS and uric acid. Retrospective and cross-sectional studies in 510 patients were made. Veined extraction post fast of 12 hs, observation of the serum, and determination of uric acid according to enzymatic method. Limpid serums were observed, free of hemolysis. The total of patient 289 (56,7%) with MS and 175 (34,3%) men. 100% of the patient control presents uricemia values inside the established normal limits according to sex, mean 33,8 ± 0,47 mg/l (range:19,0-51,0 mg/l); patients with SM, 26,0% presents values that were above the established limits according to sex, mean 52,1 ± 0,53 mg/l (range: 30,5-79,6 mg/l), P<0,0001. Significant differences between patient >50 years (52,9±0,65 mg/l) and <50 (50,4±0,90 mg/l), P<0,02. The uricemia values in MS group was significantly different in men (56,7±0,75 mg/l) and women (48,3±0,61mg/l), P<0,0001 and also in hyperuricemics patient between men (24,2%, 68,2±0,98mg/l) and women (27,4%, 58,1±0,77 mg/l), P < 0,0001. We determine a significative correlation between MS and increased uricemia values, and these results are also conditioned by sex (> men) and age (>50 years). It is important that the uricemia values are determined in cases of MS to avoid additional complications.

151.

LICE: EXTERNAL PARASITES IN CHILDREN OF PRIMARY SCHOOLS OF SAN LUIS' CITY

Verdugo RA, Ampuero VE, Lapierre AV, Rodríguez GB, González LE.
Parasitología y Micología. UNSL, 5700 San Luis, Argentina.
E-mail: luergonz@unsl.edu.ar

The louse is a parasite that represents a public world -wide health problem, and its prevalence varies from different regions according to cultural, social and economic issues. Affects mostly school-age children acting in detriment of the concentration and the academic performance of the same. This work tries to determine the prevalence, personal and social factors that predispose to acquire this parasite, for which samples were collected in two major schools of San Luis' city. They were obtained together with a questionnaire that included personal and social data. 519 children, of between 1º and 6º degree, were analyzed visually with the help of pincers and fine tooth combs in 2007. The infected: 134 (25,8%). We found a higher prevalence in men 89/242 (36,8%) than girls 45/277 (16,2%), as well as long hair 112/308 (36,4%) than in short 22/211 (10,4%). The differences between wavy hair or lace (30,1%-25,2%), lighter or darker (26,3%-25,4%), with or without hygiene (25,7%-30,0%) not were statistically significant. We detect the presence of nits at 100% of the positive cases. The positive rates are relatively constant from 1º to 6º degree (28,3 -23,4 -22,7 -25,0 -27,7 -26,9%), which demonstrates the difficulty of eradicating the problem. It is important that schools are informed about ways of transmission of this parasite and preventive measures, and this knowledge transmitted to parents and students.

152.

EFFECTS OF *Clostridium septicum* INFECTION ON MACROPHAGES CELLS LINE RAW264.7

Villa MC, Cáceres CS, Gallo GL, Castro MG, Cortiñas TI, Sotomayor C, Stefanini AMS.
Área Microbiologia. UNSL. Chacabuco y Pedernera 5700. San Luis.

Clostridum septicum is a pathogenic anaerobe microorganism that causes traumatic and non traumatic gas gangrene in most animals and man. The disease have a rapid course and is always fatal. For the establishment of infection pathogens have to overcome or evade host defenses so the response of macrophages, key cells of the immune system, to *C. septicum* is necessary to understand its pathogenesis. The aim of this study was to determine the effects of *C. septicum* infection to mouse monocytic-macrophage cell line RAW 264.7.The cell line was cultured in Dulbecco's modified Eagle's medium containing 10% fetal bovine serum. Live, death and antibody opsonized cells of *C. septicum* ATCC 12464, collected at the logarithmic phase of grow in a clostridial medium under anaerobic conditions, were used to infect RAW cells at different multiplicity of infection (moi) and time of post-infection. The viability, phagocytic activity and nitric oxide (NO) production was determine using 3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyl tetrazolium bromide (MTT), nitro blue tetrazolium (NBT) assays and Griess reaction respectively. The results showed a lost of viability depending on the moi and time assayed. Live cells induced the highest phagocytic activity and NO was sustained at lower moi 24 h post infection. The cell line RAW264.7 can be successfully used for *in vitro* studies of *C. septicum* infection.

153.

EFFECTS OF *Baccharis articulata* INFUSIONS ON DIURESIS IN RATS

Yorlano J[1], Del Vitto LA[2], Petenatti EM[2], Gianello JC[3], María AO[1], Pelzer L[1].

[1]Farmacología. [2]Botánica. [3]Quìmica Orgànica. Universidad Nacional de San Luis. E-mail: alemaria@unsl.edu.ar

Baccharis articulata (Lam.) Pers. (Asteraceae), popularly known as "carqueja", "carquejilla", is a plant used in traditional medicine. An infusion or decoction of the plant is taken orally as a diuretic and cholagogue. The aim of this work was to evaluate the effects of *B. articulata* infusions on diuresis in isotonic saline loaded Wistar rats. The urinary volumetric excretion was determined using the Lipschitz method (1943). The treated rats received 20% or 30% infusions (p. o.) of the aerial parts of *B. articulata* or furosemide as standard drug (10 mg/kg). The control group received only the NaCl isotonic solution (50 ml/kg) by the intragastric route. Urinary volumetric excretion was measured in 3 hours diuresis. All values were expressed as the mean ± SEM. Student's *t*-test was performed to evaluate the statistical differences between the control and the experimental samples. The 30% infusion of *B. articulata* produced significant increases in urinary volumetric excretion compared with the vehicle treated control group, between 45 min and 105 min ($p<0.05$ vs. control), while treatment of rats with 20% infusion of *B. articulata* had no significant effect. The difference in the mean values of furosemide, a high-ceiling diuretic agent, and infusion group ($p<0.05$) indicate that the infusion of *Baccharis articulata* showed moderate diuretic activity.

154.

MAST CELL IN RAT MAYOR SALIVARY GLANDS

Zavala W, Foscolo M, Davila J, Cavicchia J.

IHEM, Facultad Odontología, Univ Nac Cuyo.

E-mail: waltherzavala@gmail.com

Mast cells are predominantly localized at the interface between host and environment such as skin and mucosal surfaces. They are able to perceive a variety of allergens and invading pathogens. In oral tissues, degranulation of mast cells it has been a consistent feature of inflammatory lesion like liquen planus, gingivitis, and periapical process. Although the presence of mast cells in rat parotid has been reported, the distribution and role in normal condition remain still unknown. The aim of the present study was to find the number and the pattern of distribution and possible differences in mast cell population present in mayor salivary glands (parotid, sumandibular and sublingual glands) of rats. Fragments from salivary gland were collected, processed and included in paraffin wax, cut and stained with toluide blue and alcian blue-safranin. The total number of mast cell was counted to estimate the mm2 population from both intralobulillar and interlobulillar stroma tissues. Statistical analysis showed not significant differences ($p< 0.05$) between the tree analysed glands. Numerous mast cells were located around salivary secretory ducts, in close association. The results suggest that MT play a relevant role in salivary antigen detection and there is a close cooperation with other antigen professional presenting cells like dendritic cells.