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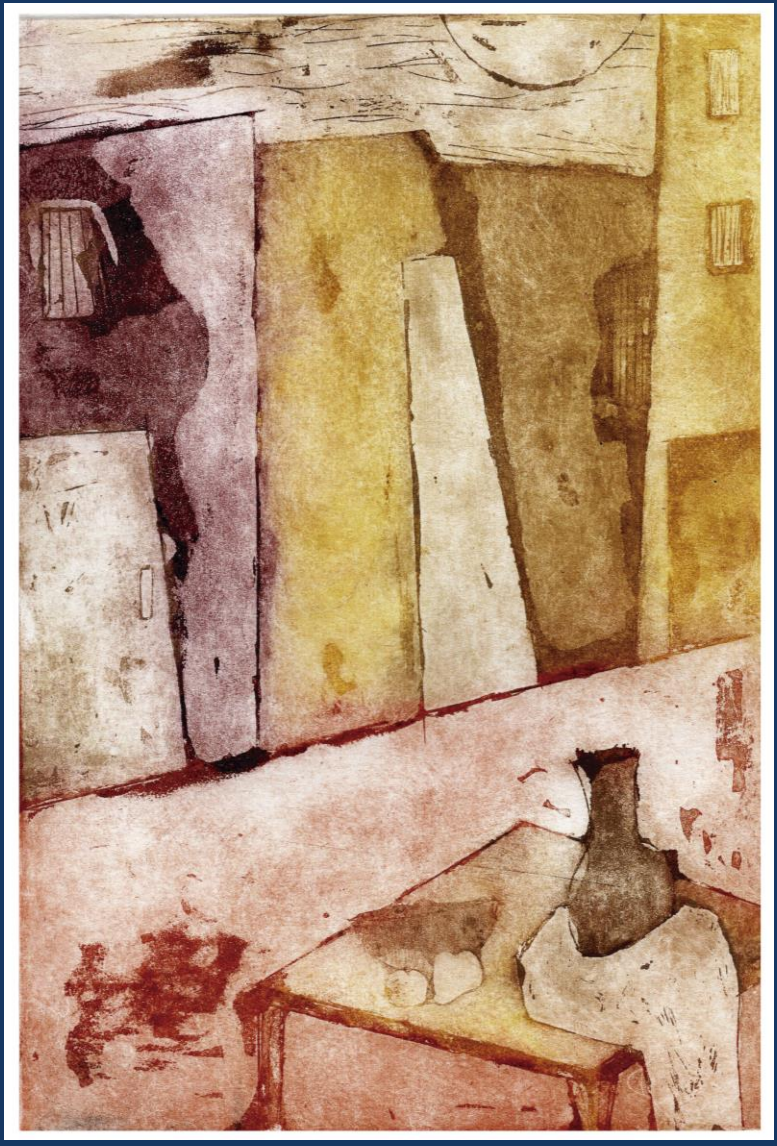

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La Tapa (*Ver* pág. 4)
Atardecer en la tarde
Antonella Ricagni

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REUNIÓN ANUAL DE SOCIEDADES DE BIOCIENCIA 2019

LXIV Reunión Anual de la
Sociedad Argentina de Investigación Clínica (SAIC)

LI Reunión Anual de la
Asociación Argentina de Farmacología Experimental (SAFE)

XXI Reunión Anual de la
Sociedad Argentina de Biología (SAB)

XXXI Reunión Anual de la
Sociedad Argentina de Protozoología (SAP)

IX Reunión Anual de la
Asociación Argentina de Nanomedicinas
(NANOMED-ar)

VI Reunión Científica Regional de la Asociación Argentina
de Ciencia y Tecnología de Animales de Laboratorio
(AACyTAL)

con la participación de
The Histochemical Society

13 - 16 de noviembre de 2019
Hotel 13 de Julio - Mar del Plata

EDITORES RESPONSABLES

Dra. Mónica Costas
Dra. Gabriela Marino
Dr. Pablo Azurmendi

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ANNUAL MEETING OF BIOSCIENCE SOCIETIES 2019

LXIV Annual Meeting of
Sociedad Argentina de Investigación Clínica (SAIC)

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IX Annual Meeting of
Asociación Argentina de Nanomedicinas
(NANOMED-ar)

VI Regional Scientific Meeting of Asociación Argentina
de Ciencia y Tecnología de Animales de Laboratorio
(AACyTAL)

with the participation of
The Histochemical Society

November 13th – 16th, 2019
Hotel 13 de Julio - Mar del Plata

CHIEF EDITORS

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Dra. Gabriela Marino
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To gain fertilization ability sperm must undergo a series of physiological modification in the female tract called capacitation, which leads to the acquisition of hyperactivated motility (HA) and the ability to undergo acrosome reaction (AR). Membrane potential (Em) hyperpolarization and alkalinization of the intracellular pH are necessary for HA and AR to take place. It has been reported either pharmacologically or genetically (potassium channel Slo3 knockout mice) that hyperpolarization is necessary and sufficient for sperm acrosomal responsiveness. In addition, intracellular alkalinization allows the opening of CatSper channels which lead to an increase in intracellular calcium that is fundamental for the HA of sperm. The aim of this work was to elucidate the interplay between Em and pH in mouse sperm. We used BCECF-AM and DISC3(5), probes that measures changes in cytoplasmic pH and Em, respectively. First, we studied the dependence of pH and Em, by co-incubating sperm with both probes followed by Flow Cytometry analysis. We observed that all the cells were grouped into two populations: 1) low pH and depolarized Em or 2) high pH and hyperpolarized Em. We also determined that sperm incubated under non-capacitating conditions with the addition of 1 µM valinomycin displayed a robust increase in pH suggesting that changes in Em are necessary for the rise in pH observed during capacitation. This increase was abrogated in the presence of high K^+ in the extracellular space. In addition, we studied the kinetics of this changes by assessing Em and pH at different time points of capacitation (0 to 60 min). Our results showed that there is a rapid pH alkalinization during the first 15 min of incubation in capacitating medium that is followed by a transient acidification at 30 min. Alkalinization is then restored at 45 min and remain unchanged. Thus, our results suggested that changes in the Em induces modifications in intracellular pH during mouse sperm capacitation.

Bioinformática, genoma, proteoma y nuevas tecnologías/ Bioinformatic I

Chairs - Francisca Ebel Barrera | Macarena Sarli

0192 - AQUEOUS MICELLAR TWO-PHASE SYSTEMS AS NOVEL TOOLS TO RECOVER PEPSIN-LIKE SURUBÍ PROTEASES: EFFECT OF SURFACTANTS ON ENZYME ACTIVITY

Antonella Valeria ACEVEDO GOMEZ (1) | Guillermo ESCOBAR(1) | Gabriela Noemí GOMEZ(1) | Laura LEIVA(1) | Soledad BUSTILLO(1) | Bibiana NERLI(2)

LABORATORIO DE INVESTIGACIÓN EN PROTEÍNAS. IQUIBA-NEA, UNNE, CONICET, FACENA. UNNE (1); INSTITUTO DE PROCESOS BIOTECNOLÓGICOS Y QUÍMICOS (IPROBYQ), UNR, CONICET. FCBYF (2)

Surubí is farmed in the northeast of Argentina. It is of interest to valorize the current disposal of fish processing through the use of viscera waste, source of enzymes such as Pepsin. These enzymes have been recovered mainly using conventional methods (e.g. salting out, chromatography), however the use of liquid-liquid extraction using surfactants have not been fully explored. Aqueous micellar two-phase systems (AMTPS) are an extractive method based on the ability of some surfactants to form two immiscible aqueous phases, a rich and a poor micelle phases to recover the product of interest. Thus, the objective of this work was to firstly evaluate the stability of surubí crude extracts under different concentrations of Genapol (GX080) and Tergitol (Tg7) to estimate the feasibility of their use as potential micellar extractants of surubí pepsin. Enzymatic extracts (ERPi) were recovered from stomachs homogenates using salting-out procedure and pepsin activity was estimated by acid hemoglobin method. ERPi were first incubated with various concentrations of surfactants (1, 3 and 5% GX080/Tg7) in 100 mM NaCit, pH= 5, for different times (0, 1, 2 and 3 h) and then enzymatic activity was measured. Results showed that any surfactant concentration tested affected ERPi enzymatic activity moderately and this effect was dose dependent. ERPi retained 92, 65 and 60% of its initial activity when were incubated with 1, 3 and 5 % of Tg7. After incubating with GX080 (1, 3 and 5 %), the ERPi exhibited 80, 70 and 60 % of its initial activity, respectively. The time variable in these assays had not significant influence on enzymatic activity decrease. Pepsin, a hydrophilic protein, is expected to be preferentially distributed into the aqueous phase of AMTPS.Considering that the surfactant concentration at this phase is always below 1 %, the obtained results suggest that AMTPS formed with either GX080 or Tg7 could be viable tools in the primary recovery of pepsin-like proteases from fishing waste.

0199 - EFFECTS OF A DIETARY SUPPLEMENT BASED ON ABSCISIC ACID, COUMARIC ACID, OMEGA ACIDS 3-6 AND AMINO ACIDS IN APIS MELLIFERA COLONIES

Facundo RAMOS | Nicolas SZAWARSKI | Facundo René MEROI ARCERITO | Azucena Elizabeth IGLESIAS | Giulia MITTON | Pablo Darian GIMENEZ MARTINEZ | Fiorella Giselle DE PIANO | Martín EGUARAS | Matías MAGGI

LABORATORIO DE ARTRÓPODOS, CENTRO DE INVESTIGACIÓN EN ABEJAS SOCIALES (CIAS). FCEYN. DPTO. BIOLOGÍA.

Currently, the majority of General Pueyrredón landscapes are dominated by the modern agriculture, characterized by high percentages of monocultives and a considerable amount of agrochemicals application. In this context, the regional apiculture has been affected by a drastic reduction in floral resources, leading to a diet deterioration and health weakening in Apis mellifera. In an attempt to improve parameters of strength in bee colonies, the present study assessed the effectiveness of a dietary supplement (COMP), made of abscisic acid (ABA) 10 µM, coumaric acid (CUM) 600 µM, protein hydrolyzate (HID) 14 µl/ml, omega acids 3-6 (O3/O6) 6 µl/ml and sugar syrup 2:1 (sugar:water). First, in vitro toxicity of COMP, and its individual components, were evaluated by laboratory bioassays. For this purpose, nurse bees were fed with these compounds for 96 hours. Survival rates were calculated, using a Kaplan-Meier test, and compared with those calculated from bees fed with syrup 2:1 (sugar: water) as controls. On the other hand, a field trial was performed, consisting in beehives fed (4 colonies per treatment) with COMP for 30 days during summer season. Every 15 days and at the end of the trial, the adult bee population, the amount of cells covered by brood, honey and pollen from each treated colony were recorded and compared with the respective controls, using two- way ANOVA test. The results obtained showed that COMP is palatable and non-toxic to A. mellifera (mean ± SE: 94.23 ± 3.65 % survival), producing an increase in the open-breeding population ($p= 0.00825$), with a consequent growth in pollen reserves ($p= 0.0504$). Thus, COMP could become a new nutritional tool in apiculture development under current stressful factors. Based on previous works, likely COMP induces immunological and detoxification mechanism in bee health.

0286 - PRELIMINARY RESULTS OF A COMPETITION ELISA TO DETECT ANAPLASMA MARGINALE ANTIBODIES.

Macarena SARLI (1) | Beatriz VALENTINI(2) | María Belén NOVOA(1) | Carolina THOMPSON(2) | Susana TORIONI(2) | María Evangelina PRIMO(1)

CONSEJO NACIONAL DE INVESTIGACIONES CIENTÍFICAS Y TÉCNICAS (CONICET) (1); INSTITUTO NACIONAL DE TECNOLOGIA AGROPECUARIA (2)