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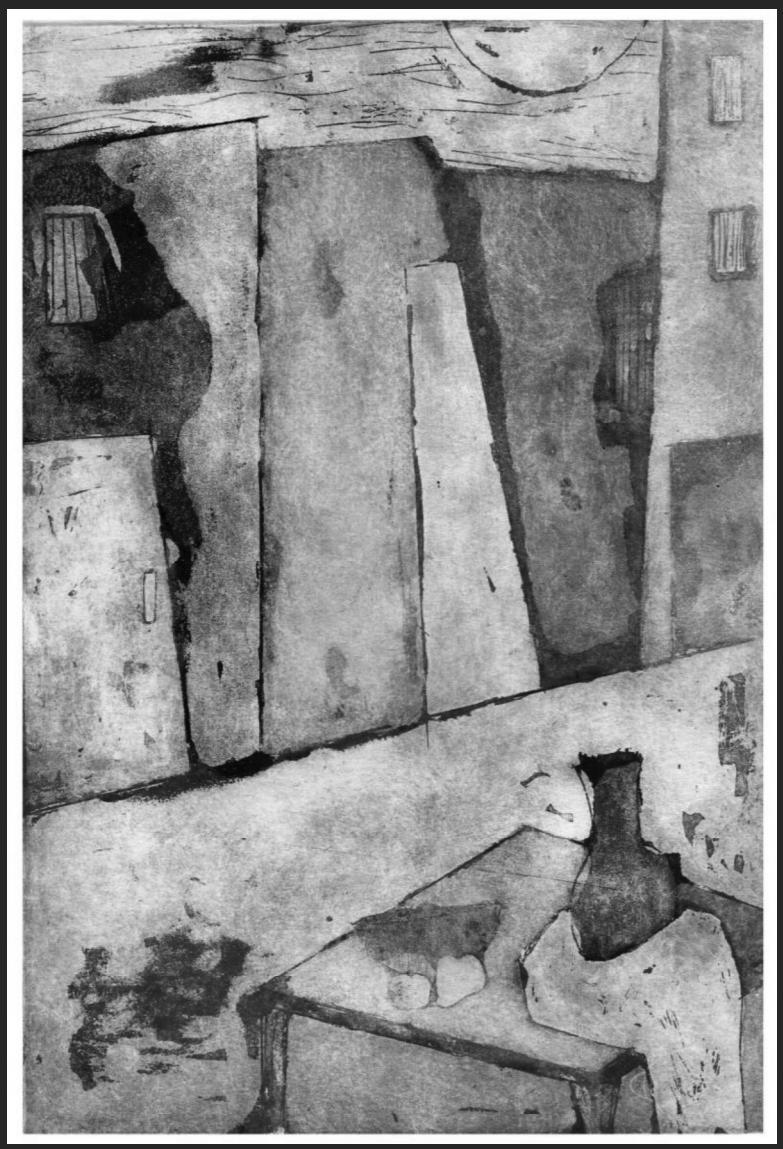

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La Tapa (Ver pág. 4)
Atardecer en la tarde
Antonella Ricagni

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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

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with the participation of
The Histochemical Society

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

CHIEF EDITORS

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

Abstract/Resumen: Hyaluronic acid (HA) is a glycosaminoglycan present in oocyte-cumulus cell complexes. A population of motile mature spermatozoa with low incidence of genetic alterations preferentially interact with HA molecules. The aim of this work was to develop polymeric biomaterials containing HA for selection of bull spermatozoa based on their functional characteristics. Polymeric hydrogels composed of poli N-isopropylacrylamide-co-20% N-Tris (hydroxymethyl) methyl acrylamide semi-interpenetrated with HA (PNIPAM-HMA-HA) were synthesized and physical chemically characterized. The interaction and degree of frozen-thawed sperm/hydrogel surface binding was analyzed by phase contrast microscopy. Motility, viability, nuclear morphology, acrosome membrane integrity and plasma membrane functionality of attached/released and non-attached sperm populations were studied. Surfaces of hydrogels interpenetrated with HA were more hydrophilic according to angle of contact study; however presence of HA into the polymeric network was not associated with a change of the volume phase transition temperature. In addition, PNIPAM-HMA-HA hydrogels had higher swelling capacity than PNIPAM-HMA without HA. Fifty percent of frozen-thawed bull spermatozoa attached to PNIPAM-HMA-HA hydrogels and the 47% of them were released upon treatment with medium containing hyaluronidase. Selected sperm have acceptable characteristics of rectilinear motility (70 ± 2.58 %), high viability (58.7 ± 11.7 %), nuclear and cellular morphology and low percentage of acrosome reacted spermatozoa (23.3 ± 4.1 %). The plasma membrane integrity of the released population remained unchanged compared to initial sample. In conclusion, our results indicate that polymeric hydrogels semi-interpenetrated with HA could be useful to select high-quality sperm for use in assisted reproduction techniques.

0624 - USE OF FISH DIGESTIVE EXTRACT FOR CHICKEN FEATHER DEGRADATION

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LABORATORIO DE INVESTIGACIÓN EN PROTEÍNAS/NEA IQUIBA-UNNE

Abstract/Resumen: By-products from animal sources are currently used for the benefit of providing added value to production. In the poultry industry, feathers represent up to 8.5 % of chicken weight and constitute an important source of protein, mainly keratin. Due to the high aminoacids content, its processing to obtain hydrolysates becomes a commercial attraction. Besides, in the fishing industry, the viscera constitute 5 % of the total weight of the fish and are a waste for the environment. They are considered an alternative source of enzymes (proteases) of high commercial value by their industrial and scientific applications. In the present work an enzymatic extract from fish pyloric cecae (Pygocentrus nattereri) was assayed on feathers in order to evaluate its capacity of hydrolyzes this keratin source under different medium contiditions. Preparations of extracts were made by mechanical digestion of tissues in buffer pH 7.8, 1:5 g tissue/ml, and then centrifuged. Proteolytic activity of fish enzymatic extract (FEE) was tested using a-Nbenzoyl-DL-arginine-p-nitroanilide. For the hydrolysis, first, feathers were pre-treated with buffer 7.8, 1 % 2-mercaptoethanol (2-ME), for 20 min at 100 °C. Second, 7.0 U/ml FEE was added (1:5) and incubated for 6 days at 37 °C. After finishing hydrolysis stage, feathers were observed at optic microscope (OM) and sobrenadants were analyzed by UV spectra. Feathers were running in parallel under different treatments, such as absence of reducing agent, heat or FEE. OM analysis showed that FEE was capable of attack the feather structure, but the pre-treatment with 2-ME and heat increased the enzymatic action. UV 210-310 nm analyses reveled a major increment of absorbance at 250-280 range in those samples from feathers treated with FEE, 2-ME and heat. Results demonstrate that FEE from P. nattereri is capable of degrade the native structure of feathers, yielding free molecules of hydrolyzed keratin. This property gives FEE a potential industrial use.

0734 - EFFECT OF THE MEDIUM TALP ON THE SELECTION OF PIG SPERMATOZOAS THROUGH THE USE OF HYDROGELS

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DEPARTAMENTO DE BIOLOGÍA MOLECULAR-UNIVERSIDAD NACIONAL DE RÍO CUARTO (1); INBIAS/CONICET. DEPARTAMENTO DE BIOLOGÍA MOLECULAR-UNIVERSIDAD NACIONAL DE RIO CUARTO (2); IITEMA/CONICET. DEPARTAMENTO DE QUIMICA/UNIVERSIDAD NACIONAL DE RIO CUARTO (3)

Abstract/Resumen: In order to select sperm cells with high fertilizer quality, PNIPAM copolymerized with APTA-15 % hydrogel surfaces were used. This biomaterial is becoming very important due to its low cellular toxicity, positive vet charge and its great versatility. The aim of this work was to evaluate the binding and release capacity of pig sperm to surfaces of PNIPAM co-APTA-15% in TALP-Ca^{++} and TALP- without Ca^{++}. Initially, the effect of sperm manipulation on sperm viability of was evaluated by exposure to the TALP-Ca^{++} medium, without the presence of the hydrogel. In order to evaluate the effect of calcium on cell adhesion, pig sperm were exposed to PNIPAM co-APTA-15 % hydrogels surfaces, in TALP-Ca^{++} and TALP- medium without Ca^{++} for 30. Subsequently the medium was replaced by TALP-Ca^{++} and TALP-without Ca^{++} in order to analyze whether the cation affects sperm cells relase from hydrogel. Results were statistically analyzed by one way ANOVA and Bonferroni as a post-hoc test ($p<0.05$). The results suggested that the presence of Ca^{++} in the manipulation medium increased sperm cells adhesion to hydrogel surfaces and the absence of this cation released the cells of the PNIPAM co-APTA 15 % surfaces. In addition, it was found that the hydrogel did not cause any alteration on the sperm viability, compared to the initial semen sample. These results suggest that the presence of calcium in sperm manipulation medium affect pig spermatozoa binding and release to PNIPAM co-APTA 15 % hydrogel surfaces.

0791 - MOLECULAR DETECTION OF BEE PATHOGENS IN HONEY

Martín EGUARAS | **Gregorio FERNÁNDEZ DE LANDA** | Giselle FUENTES | Sandra FUSELLI | Carolina GARCÍA IZA | Sandra MEDICCI | Eugenia OLIVERA | Santiago PLISCHUK | Silvina QUINTANA | Pablo REVAINERA | Sergio RUFFINENGO

CONICET

Abstract/Resumen: Honey bees have a wide variety of parasites and pathogens associated with their nests. One of them, the causative agent of the American foulbrood, Paenibacillus larvae, was previously found in bee honey. Considering that other spore-forming microorganisms are expected to remain latent in honey, the presence of, at least, microsporidia, spore- forming bacteria, and viruses protected by peptide structures might represent a threat. Parasites and pathogens that affect honey bees health seem to play a major role in the worldwide decline of pollinators, therefore their detection in honey could be used to prevent the spread of diseases among colonies. Honey from 57 apiaries located in Buenos Aires, Córdoba, Corrientes, Entre Ríos, Formosa, La Rioja, Neuquén, Río Negro and Santa Fe was collected between March and October, 2012. DNA was extracted from pollen obtained by centrifugation of 10 g. of honey samples and amplified by qPCR. PCR products were purified, sequenced and analysed using BLAST software. Honey from every apiary contained DNA of at least one pathogen, with a high occurrence of Apis mellifera Filamentous Virus (96.5 %) and the neogregarine Apicystis bombi (75.5 %). A lower proportion of samples were positive for Nosema ceranae (51 %), P. larvae (44 %), and Ascosphaera apis (28 %). Here, we report the presence of DNA of several bee pathogens in honey from commercial