

2019

# medicina

BUENOS AIRES VOL. 79 Supl. IV - 2019

## 80° Aniversario



MEDICINA

Volumen 79, Supl. IV, págs. 1-338

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BUENOS AIRES, VOL. 79 Supl. IV - 2019

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

MEDICINA (Buenos Aires) – Revista bimestral – ISSN 0025-7680 (Impresa) – ISSN 1669-9106 (En línea)

REVISTA BIMESTRAL

Registro de la Propiedad Intelectual N° 02683675

Personería Jurídica N° C-7497

Publicación de la Fundación Revista Medicina (Buenos Aires)

Propietario de la publicación: Fundación Revista Medicina

Queda hecho el depósito que establece la Ley 11723

Publicada con el apoyo del Ministerio de Ciencia, Tecnología e Innovación Productiva.

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Aparece en MEDLINE (PubMed), ISI-THOMSON REUTERS (Journal Citation Report, Current Contents, Biological Abstracts, Biosis, Life Sciences), CABI (Global Health), ELSEVIER (Scopus, Embase, Excerpta Medica), SciELO, LATINDEX, BVS (Biblioteca Virtual en Salud), DOAJ, Google Scholar y Google Books.

Incluida en el Núcleo Básico de Revistas Científicas Argentinas del CONICET.

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Vol. 79, Supl. IV, Noviembre 2019

**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**

**ANNUAL MEETING OF BIOSCIENCE SOCIETIES 2019**

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

**LI Annual Meeting of  
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**XXXI Annual Meeting of  
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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**

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

reduction in the internalized LCA-labeling compared to control. Finally, the addition of 80  $\mu$ M dynasore, a dynamin inhibitor, produced a significant decrease in LCA internalization. Altogether, these results indicate that CE in activated mouse eggs is not dependent on clathrin or caveolae but on actin dynamics and dynamin activity.

### 0975 - RELEVANCE OF CYSTEIN-RICH SECRETORY PROTEINS FOR MALE FERTILITY

Ludmila CURCI | Valeria SULZYK | Mariana WEIGEL MUÑOZ | Patricia CUASNICÚ

IBYME-CONICET; CÁTEDRA DE QUÍMICA, CICLO BÁSICO COMÚN, UBA

Cysteine-rich secretory protein (CRISP) 1, 2, 3 and 4 are mainly expressed in the reproductive tract and have key roles in mammalian fertilization. In spite of this, knockout (KO) mice for each individual protein are fertile whereas double KO (DKO) CRISP1/CRISP4 are subfertile, suggesting the existence of compensatory mechanisms between homologous CRISP family members. Recent results from our lab revealed that DKO CRISP1/CRISP3 are also subfertile. Based on this, the aim of the present work was to investigate the mechanisms underlying the lower fertility rates observed in these animals. In order to do this, we first analyzed the percentage of fertilized eggs recovered from the ampulla of superovulated females mated by DKO1/3 or control males. As no significant differences between groups in these in vivo fertilization rates were observed, the recovered fertilized oocytes from both groups were incubated in vitro for additional 5 days to analyze their subsequent development. Results showed that the percentage of oocytes from mutant males that reached the blastocyst stage under these conditions was significantly lower than that corresponding to controls, suggesting that CRISP1 and CRISP3 may be important for early embryo development. To investigate potential functional deficiencies in mutant sperm that could be responsible for these observations, DKO1/3 and control sperm were co-incubated in vitro with eggs (surrounded by both cumulus oophorus and zona pellucida or denuded of these coats) and the percentage of fertilized eggs determined. Results revealed significantly lower fertilization rates for mutant than for control sperm, confirming defects in mutant sperm fertilizing ability. Together, these observations support the role of CRISP1 and CRISP3 for male fertility and fertilization and contribute to a better understanding of how paternal factors could impact on embryo development.

### Toxicología / Toxicology II

Chairs: Pablo Evelson | Paola Ingaramo

### 0086 - EFFECTS OF GLYPHOSATE (G) AND ROUNDUP (R) ON IMMATURE RAT SERTOLI CELL (SC) PROLIFERATION

Agostina GORGA | Gustavo M. RINDONE | Cecilia CENTOLA | Eliana H. PELLIZZARI | María Del Carmen CAMBEROS | María Fernanda RIERA | María Noel GALARDO | Silvina B. MERONI

CENTRO DE INVESTIGACIONES ENDOCRINOLÓGICAS "DR. CÉSAR BERGADÁ" (CEDIE)-CONICET

A declining trend in human fertility has been described and exposure to xenobiotics, such as herbicides, emerges as a potential cause. We have shown that G and its commercial formulation R alter blood-testis barrier between neighboring SC, which would partly explain the decrease in reproductive function observed after herbicide exposure. This observation points the SC as a plausible target for G or R effects. In rats, SC proliferation occurs during fetal and postnatal periods up to 15 days of age. As each SC supports a limited number of germ cells, the number reached during

proliferative periods will be decisive for spermatogenic capacity. Thus, disruption of any SC proliferative stage would compromise fertility. The aim of this work is to analyze whether exposure to G or R can alter postnatal SC proliferation. SC cultures from 8-day-old rats were treated with 100 ppm of G or R in the absence or presence of FSH, the main SC mitogen. Proliferation was evaluated by BrdU incorporation. It was observed that R, but not G, decreased FSH-stimulated SC proliferation (FSH:  $19.8 \pm 2.3$ ; FSH + R:  $9.7 \pm 1.4^*$ ,  $X \pm DS$ ,  $*p < 0.05$ ). Additionally, it was observed that R decreased cyclin D1 and D2 and increased p21Cip expression ( $p < 0.05$ ), evaluated by RT-qPCR. For in vivo studies, male pups were assigned to control and R groups receiving daily sterile saline solution or 50 mg/kg R ip, from postnatal day (pnd) 3 to 7, respectively. At pnd8, pups were injected with BrdU (50 mg/kg) before sacrifice to evaluate cell proliferation. No changes in BrdU incorporation in SC and in testis weight was observed ( $n = 4$ /group). In addition, histological analysis showed normal organization of the seminiferous epithelium. The results obtained show that although R could decrease in vitro SC proliferation, these effects could not be observed in vivo. Altogether the results suggest that the harmful effects of R on adult reproductive function would not be mediated by alterations in SC proliferation.

### 0264 - LENS REDOX IMBALANCE AFTER URBAN AIR POLLUTION EXPOSURE

Natasha Stephanie JANEZIC (1) | Romina LASAGNI VITAR(1) | Ailen Gala HVOZDA ARANA(1) | Timoteo MARCHINI(1) | Manuela MARTINEFSKI(2) | Julia TAU(3) | Claudia REIDES(1) | Valeria TRIPODI(2) | Pablo EVELSON(1) | Alejandro BERRA(3) | Susana LLESUY(1) | Sandra FERREIRA(1)

UNIVERSIDAD DE BUENOS AIRES, FACULTAD DE FARMACIA Y BIOQUÍMICA, QUÍMICA GENERAL E INORGÁNICA. IBIMOL (1); UNIVERSIDAD DE BUENOS AIRES. FACULTAD DE FARMACIA Y BIOQUÍMICA.TECNOLOGÍA FARMACÉUTICA (2); UNIVERSIDAD DE BUENOS AIRES. FACULTAD DE MEDICINA. DEPARTAMENTO DE PATOLOGÍA (3)

Particulate matter (PM) present in air pollution produces adverse effects on the eye. Oxidative stress has been suggested to play a key role in the toxic mechanism. Lens antioxidant system maintains the redox status of nearby ocular structures. The aim of the study was to evaluate the redox balance in mice lens after the exposure to urban air pollution. 8-week-old Balb/c male mice were exposed to urban air or filtered air (UA-group and FA-group, respectively) in exposure chambers located in highly populated area of Buenos Aires city (average level of PM:  $25.6 \pm 0.8 \mu\text{g}/\text{m}^3$ ). The animals were exposed for 8 h/day, 5 days/week, up to 12 weeks (CICUAL-FFYB, CUDAP 50946/16). Superoxide dismutase (SOD), glutathione peroxidase (GPx), glutathione reductase (GR) activity, levels of reduced and oxidized glutathione (GSH and GSSG) and protein oxidation (PO) were evaluated in lens lysates. After 1 and 2 weeks of exposure, UA-group presented no significant differences in all measurements compared to the FA-group, except for SOD activity that was increased after 1 week (107 %,  $p < 0.05$ ). After 4 weeks, an increase in GR activity was shown in UA-group (47 %,  $p < 0.05$ ). After 12 weeks, GPx activity was increased in UA-group (63 %,  $p < 0.05$ ), meanwhile GR activity decreased (40%,  $p < 0.05$ ) as well as the GSH/GSSG index (62 %,  $p < 0.05$ ), compared to FA-group. PO increased in UA-group (113 %,  $p < 0.05$ ), and an inverse correlation was found between PO and GSH/GSSG index ( $r = -0.9114$ ,  $p < 0.001$ ). GPx activity and GSH/GSSG index also presented an inverse correlation ( $r = -0.7421$ ,  $p < 0.001$ ) in UA-group. These results suggest that urban air pollution exposure alters the redox balance of the lens, which could affect the antioxidant defenses of nearby ocular structures. The correlation between the PO and GSH/GSSG index indicates that lens GSH pool could prevent the protein oxidation, which has been suggested as one of the triggers of cataracts.

### 0290 - EXPOSURE TO HEXACHLOROBENZENE INDUCES ENDOCRINE ALTERATIONS