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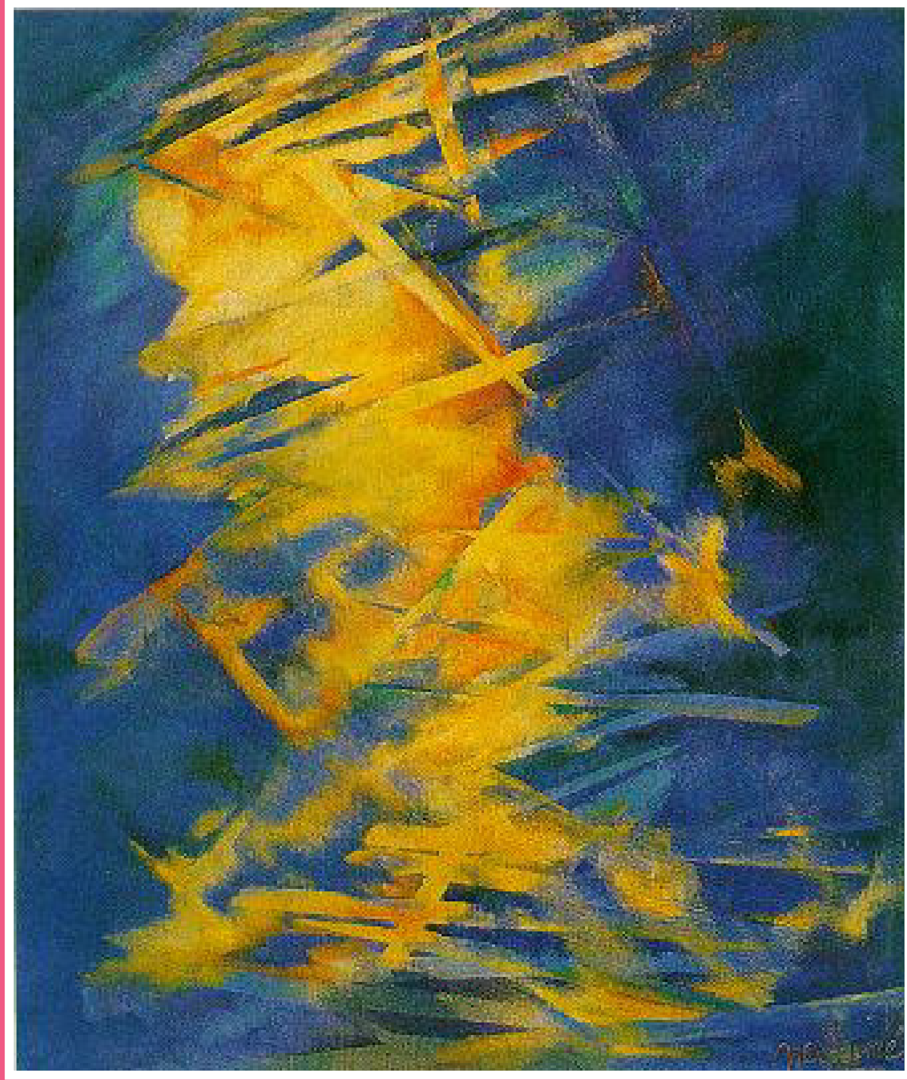

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La Tapa (Ver p. IV)
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XXIX REUNIÓN ANUAL DE LA SOCIEDAD ARGENTINA DE PROTOZOOLOGÍA (SAP)

13-17 de noviembre de 2017
Palais Rouge– Buenos Aires

1 Mensaje de Bienvenida de los Presidentes
2 Conferencias, Simposios y Presentaciones a Premios
92 Resúmenes de las Comunicaciones presentadas en formato E-Póster

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JOINT MEETING OF BIOSCIENCE SOCIETIES

LXII ANNUAL MEETING OF ARGENTINE SOCIETY OF CLINICAL INVESTIGATION (SAIC)

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Palais Rouge– Buenos Aires

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2 **Lectures, Symposia and Award Presentations**
92 **Abstracts of E-Poster Presentations**

- - - -

LA TAPA

María Esther Gené, **Imagen ígnea**, 1996.

Acrílico sobre tela, 110 x 95 cm. Cortesía de la Comisión Nacional de Energía Atómica, Predio TANDAR, Centro Atómico Constituyentes. Presidente de la Comisión Organizadora de la Exposición Permanente: Dr. A.J.G.Maroto.

María Esther Gené nació en Buenos Aires. Cursó Historia del Arte y Estética con Blanca Pastor y Nelly Perazo. Se inició en el taller de Centa Bertier y continuó su formación con Miguel Dávila. Participó del grupo de investigación plástica que dirigió Emilio Renart. Integró el Grupo Gen y formó el Grupo Fusión. Realizó numerosas exposiciones colectivas e individuales (Museos Municipal de Bellas Artes de Luján, Fernán Félix de Amador, de Arte Moderno de la Ciudad de Buenos Aires, Fundaciones San Telmo y Banco Mayo, Fundación Andreani, Patio Bullrich, Galería Kristel K., Salón ICCED de Pintura, entre otros). Sus obras se encuentran en colecciones privadas de Argentina, México, Alemania, España, Uruguay y EE.UU.

[1] Comisión Nacional de Energía Atómica. Artistas Plásticos con la CIENCIA, Centro Atómico Constityentes, Predio TANDAR, Buenos Aires, 1999; En: *http://www2.cnea.gov.ar/xxi/artistas/artistasplasticos.htm*[1]

Keywords: mammary cancer, apoptosis, proliferation, lactation

(123) **THYROID HORMONES INDUCES CHEMOSENSITIVITY TO DOXORUBICIN IN JURKAT CELLS THROUGTH THE MODULATION OF ENZYMES INVOLVED IN CHEMOTHERAPY DRUG METABOLISM**

María Celeste Díaz Flaqué, María Florencia Cayrol, Helena Sterle, Cinthia Rosemblit, Alejandra Paulazo, Johanna Díaz Albuja, Alicia Klecha, Maria Laura Barreiro Arcos, Graciela Cremaschi
BIOMED UCA-CONICET

Thyroid hormones (TH) – 3,3´,5-triiodo-L-thyronine (T3) and L-thyroxine (T4) – are important regulators of the metabolism and physiology of most normal tissues. We recently showed that TH stimulate the proliferation and metabolism of T cells.

To assess the effect of TH on the response to conventional chemotherapy, we determined the Doxorubicin (DOX) dose that inhibits proliferation by 50% (IC_{50}) in presence or absence of TH. As expected, DOX induces cytotoxicity in a dose-dependent manner in cells treated or not with TH. It is important to note that under proliferative conditions, pretreatment with TH sensitizes Jurkat cells to DOX treatment. Noteworthy pretreatment with TH significantly decreases chemosensitivity to DOX by 50% ($p<0,01$). It is well known that CYP3A4 is the major enzyme involved in the metabolism of chemotherapeutic drugs. We have previously demonstrated that TH induce a significant increase of CYP3A4 mRNA synthesis, protein expression and metabolic activity through both the canonnical (TR) and membrane (integrin $\alpha v\beta 3$) receptors. We reasoned that TH-induced CYP3A4 modulation may act as an important regulator in the metabolisms of DOX. To further explored the role of CYP3A4 in TH-chemosensitivity to DOX we used siRNA knock down of CYP3A4 in Jurkat cells. As expected, in CYP3A4 knocked down cells, no TH-mediated chemosensitivity was observed. We also found that TH modulate these functions by activating the membrane receptor integrin $\alpha v\beta 3$. We found that inactivation of integrin $\alpha v\beta 3$ by either a chemical inhibitor or siRNA inhibit TH-induced DOX chemosensitivity.

These results present a new mechanism by which TH could modulate chemotherapy response. These findings highlight the importance of evaluating thyroid status in patients during application of T cell lymphoma therapeutic regimens.

Thyroid Hormones; CYP3A4; Doxorubicin

GENETICS AND MOLECULAR BIOLOGY 1

(213) **DEVELOPMENT OF BIOTECHNOLOGICAL STRATEGIES INVOLVING CDPKS AND PGPB TO GENERATE POTATO PLANTS TOLERANT TO SALINITY AND *Phytophthora infestans***

Cecilia Eugenia María Grossi, Elisa Fantino, Franco Santin, Rita Ulloa
INGEBI-CONICET

Abstract: Salinity of soils affects plant development and is responsible for great losses in crop yields. Potato plants can grow well in soils with an electrical conductivity (EC) of 1,7 dS/m, however tuber yield decreases more than 50% at 5.9 dS/m. Calcium is a universal second messenger that responds to biotic and abiotic stimuli. Calcium dependent protein kinases (CDPKs) sense the fluctuation in cytosolic Ca^{2+} levels and participate in stress responses. Particularly, StCDPK2 promoter contains elements responsive to ABA, dehydration and desiccation. Transgenic plants 35S::StCDPK2 lines B and E presented higher biomass and greater root development under 50 mM NaCl. In order to compare the expression profile of CDPK2 in both normal and saline conditions we analyzed two transgenic lines (St2B and St2K) harboring reporter gene beta-glucuronidase (GUS) under the control of CDPK2 promoter. These plants were grown in solid MS media (2% agar) and were then treated with 150 mM NaCl for 1, 4 and 12 hours. Histochemical and fluorometrical GUS activity was conducted in leaves and roots. GUS activity was higher on the cells of the root cap under saline stress. Fluorometrical analysis correlated with this observation in line St2B. On the other hand, line 35S:CDPK2 A that exhibited a stronger tolerance to saline stress presented bacterial colonies associated to the root. The microorganism was isolated and 16S rDNA partial sequencing identified it as belonging to *Methylobacterium sp.* Treatment with 50 mM NaCl produced a reduction in chlorophyll content and root development which was mitigated with *Methylobacterium* inoculation. Moreover, a preliminary study showed its capacity to antagonize the phytopathogenic oomycete *Phytophthora infestans* the causal agent of late blight. Taken together, our results suggest that potato StCDPK2 could mediate the response to salt stress and that this plant growth promoting bacteria (PGPB) could play a significant role in saline tolerance and biocontrol.

Keywords: CDPKS, PGPB, salinity, *Phytophthora infestans*

(1851) **ADVANCES IN THE FUNCTIONAL STUDY OF THE *ARABIDOPSIS* DNA GLYCOSYLASE MBD4L**

Jose Roberto Torres, Ignacio Lescano, Maria Elena Alvarez
Centro de investigaciones en Química Biológica de Córdoba (CIQUIBIC, CONICET-UNC), Departamento de Química Biológica, Facultad de Ciencias Químicas, Universidad Nacional de Córdoba

DNA glycosylases play important roles in the life of all organisms, acting at initial stages of the base excision DNA repair system that excises and replaces damaged bases from DNA. Interestingly, some particular DNA glycosylases remove 5-methylcytosine (5-mC), whose replacement by cytosine (C) can produce DNA demethylation. In Arabidopsis, DNA glycosylases from the DEMETER family have such capacity, and act over some well characterized targets. Here, we studied a novel DNA glycosylase recently described named MBD4L (methyl-binding domain protein 4 like), that is homologous to the human DNA glycosylase MBD4. Curiously, MBD4L does not recognize 5-mC *in vitro*. Even so, we evaluated if MBD4L can affect DNA methylation of some particular genomic regions. For that, we selected genomic targets with different chromatin states (euchromatic- heterochromatic) and used CHOP-PCR assays to determine their methylation level. Studies were conducted in wild-type, *mbd4l* mutant and MBD4L over-expressing plants, under both basal and stress conditions. We found that MBD4L controls DNA methylation at loci having different chromatin states. Moreover, the enzyme affects DNA methylation both at basal and stress condition. These results suggest that the action of MBD4L is not restricted to a particular chromatin state and probably contributes to stress-induced responses. The putative effects of MBD4L on the different genomic sites and on transcriptional regulation will be discussed.

Keywords: epigenetics, DNA demethylation, chromatin state, gene expression, DNA glycosylases, stress.

(1610) **CHANGE IN LIPID COMPOSITION OF *Bradyrhizobium* CELL ENVELOPED REVEAL A RAPID RESPONSE TO WATER DEFICIT INVOLVING LYSOPHOSPHATIDYLETHANOLAMINE SYNTHESIS IN OUTER MEMBRANE**

Adriana Cesari, Natalia Paulucci, Alicia Biasutti, Marta Dardanelli
Universidad Nacional de Río Cuarto

Cell enveloped is the primary targets affected by variations in the medium. Membrane behavior of *Bradyrhizobium* sp. SEMIA6144 during adaptation to water deficit induced by polyethylene glycol (PEG) was evaluated. *B.* sp. SEMIA6144 was exposed to PEG shock (1 h, 5 h and 24 h).

To investigate if PEG caused changes in cell morphology we used AFM. Fractions of internal and external cell membrane were obtained and lipids were extracted. The fatty acids (FA) were analyzed by GC and phospholipid (PL) were identified by TLC. For its quantification, [1-14C] sodium acetate was added to culture. Fluidity membrane cell and multilamellar vesicles (MVLs) from lipids cell was determined by measuring fluorescence polarization of DPH. To determine the PLA activity during PEG shock, outer membrane was used as enzyme source.

A dehydrating effect on the morphology of the cell surface as well as a fluidizing effect on the membrane was observed 10 min after PEG shock ($p<0.05$). The bacteria were able to restore optimal membrane fluidity. MVLs exposed to 1 h shock presented higher