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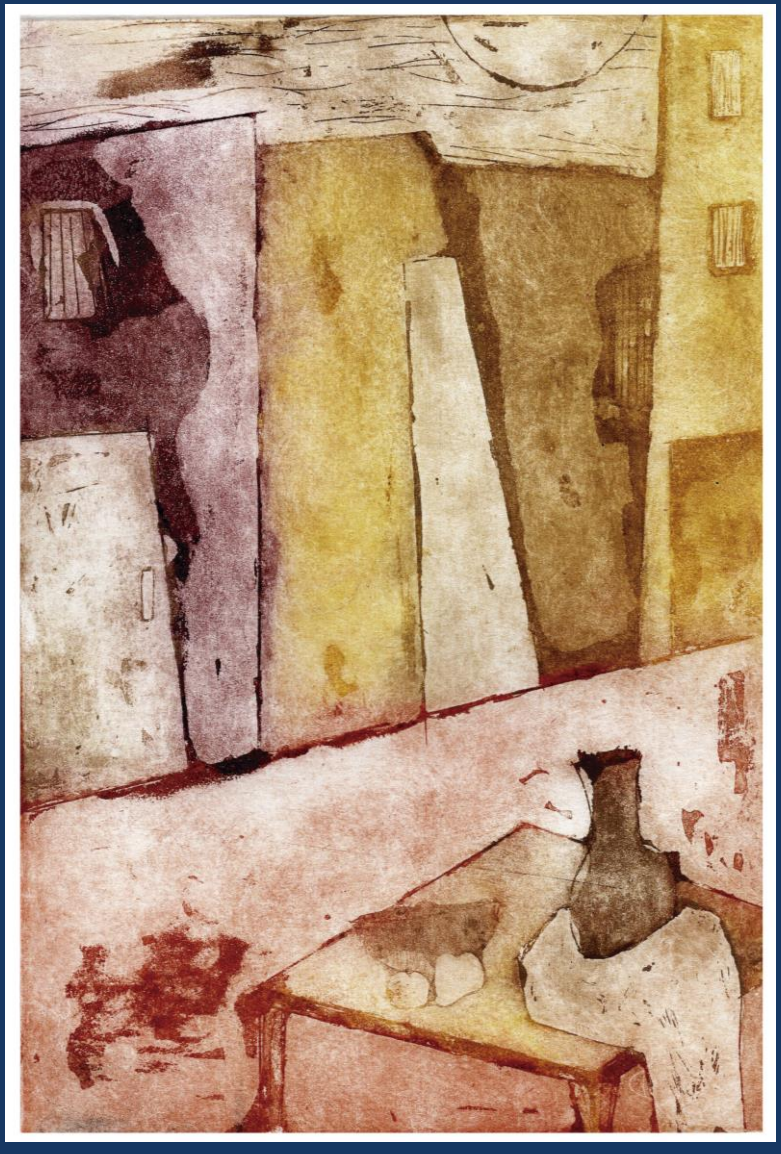

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La Tapa (Ver pág. 4)
Atardecer en la tarde
Antonella Ricagni

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Secretaría de Redacción: Ethel Di Vita, Instituto de Investigaciones Médicas Alfredo Lanari, Combatientes de Malvinas 3150, 1427 Buenos Aires, Argentina
Tel. 5287-3827 Int. 73919 y 4523-6619
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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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CHIEF EDITORS

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

expression was significantly reduced by Tunicamycin and Swainsonine treatment on LN229 cells (more than 90 %) while C2GNT1 silencing reduced its expression by about 50 %. Also, inhibition of N-glycosylation decreased cell adhesion and cell migration to a greater extent than O-glycosylation inhibition in all the cell lines evaluated. High performance anion exchange chromatography analysis of high grade glioma cell lines showed a broad expression of N- glycans with a high abundance of branched tri-antennary structures. Owing to the impact of targeted therapies in glioma has been modest, the knowledge of glycan structures and their participation in cell biology can enable us the identification of new targets for glioma treatments.

0326 - SIMULTANEOUS STIMULATORY AND INHIBITORY EFFECTS OF AN ANTI-TUMOR VACCINE DEPENDING ON THE SIZE OF THE TUMOR TARGET

Daniela MONTAGNA | Alejandra Beatriz DUARTE | Paula CHIARELLA | Raúl RUGGIERO

CEDIE

Abstract/Resumen: Immune-checkpoint inhibitors and antitumor vaccines may produce both tumor inhibitory and tumor-stimulatory effects on growing tumors depending on the stage of tumor growth. These paradoxical results might be explained assuming the hypothesis of tumor immunostimulation according to which the inhibition or stimulation of tumor growth would be dependent on the ratio between the number of immune reactants and the number of tumor cells. To test this claim, we studied the effect of an anti-tumor vaccine administered to mice bearing both a relatively large primary tumor and a small secondary tumor implant. The tumor used was the strongly immunogenic methylcholanthrene-induced MC-C fibrosarcoma and the anti-tumor vaccine was prepared with lethally irradiated MC-C tumor cells. Mice bearing a primary tumor exceeding 500 mm^3, received simultaneously the vaccine and the secondary tumor implant. Tumor volumes of both the primary and secondary tumors was determined at different times after the vaccine. The vaccine produced a significant enhancement of the primary tumor (mean of six independent experiments; $p<0.01$, paired sample test) while, simultaneously, it induced a striking inhibition of the secondary tumor growth (mean of six independent experiments; $p<0.01$, paired sample test). Our results seem to support the immunostimulation theory on the basis that the very immune response induced by an anti-tumor vaccine produced both tumor stimulatory and inhibitory effects depending on the size of the tumor target.

0335 - HO-1 INDUCES MX1 EXPRESSION TILTING THE BALANCE OF ENDOPLASMIC RETICULUM STRESS TOWARDS PRO-DEATH EVENTS IN PROSTATE CANCER.

Emiliano German ORTIZ | Juan BIZZOTTO | Pablo SANCHIS | Javier COTIGNOLA | Elba VAZQUEZ | Geraldine GUERON

INSTITUTO DE QUÍMICA BIOLÓGICA DE LA FACULTAD DE CIENCIAS EXACTAS Y NATURALES (IQUIBICEN)

Abstract/Resumen: Prostate cancer (PCa) is one of the most common cancers in men worldwide. We previously reported that heme-oxygenase 1 (HO-1), had a strong anti-tumoral effect in PCa, interacted with MX1 (myxovirus resistance protein) and upregulated its mRNA levels in PCa cell lines. In this work we assessed the cellular implications for this modulation and the clinical relevance and correlation of MX1 and HO-1 in PCa. RT-qPCR and immunofluorescence analyses in PCa cells showed significant MX1 increased expression under HO-1 induction. Next, considering that HO-1 is inducible by inflammatory and stress conditions and that is anchored to the endoplasmic reticulum (ER), we analyzed the expression levels of MX1 and HO-1 in response to ER stress (ERS), using thapsigargin. Results showed significant increase of mRNA expression levels for both genes under ERS (6-fold induction, $p<0.05$ and 50-fold induction, $p<0.05$; respectively). Confirmation of ERS was seen by up-regulation of known markers of ERS: HSPA5, DDIT3 and XBP1. Further, we assessed ERS effect on apoptosis and autophagy. Results showed that under ERS, apoptosis increased by 20 % ($p<0.05$) and Western blot detected a significant increase in LC3I/II conversion, depicting an augmented autophagic process. Conversely, these effects were reversed by siMX1 under the same conditions. Efficiency of MX1 depletion was confirmed by qPCR. Additionally, we undertook a bioinformatics approach to assess the clinical relevance of MX1 and HO-1 in PCa. MX1 was one of the most consistently down-regulated gene in PCa vs. normal prostate and Kaplan-Meier analyses showed that its loss was associated with decreased overall and disease-free survival ($p<0.05$). Of note, there was a significant positive correlation between MX1 and HO-1 (Pearson $r= 0.23$, $p<0.0001$). In summary, we propose that HO-1 induces MX1 expression and MX1 in turn, tilts the balance of ERS towards pro-death events in PCa.

0336 - CIRCULATING MIRNAS AS POTENTIAL BIOMARKERS FOR THE EARLY DIAGNOSIS OF PROSTATE CANCER

Rocío Belén DUCA (1) | Paula Lucía FARRÉ(1) | Karen Daniela GRAÑA(1) | Cintia MASSILLO(1) | Nicolás GARCÍA(2) | Federico DIMASE(3) | Norberto Ariel GANDINI(4) | Guillermo Nicolás DALTON(1) | Adriana DE SIERVI(1)

INSTITUTO DE BIOLOGÍA Y MEDICINA EXPERIMENTAL (IBYME-CONICET) (1); SERVICIO UROLOGÍA, HOSPITAL MILITAR CENTRAL (2); SERVICIO DE HEMOTERAPIA, HOSPITAL MILITAR CENTRAL (3); LAB DE BIOLOGÍA DEL CÁNCER, INST DE INVESTIGACIONES BIOQUÍMICAS BAHÍA BLANCA (INIBIBB), UNS-CONICET (4)

Abstract/Resumen: Prostate cancer (PCa) is the most common type of cancer and the third cause of death by cancer in Argentinian men. miRNAs are small non-coding RNA molecules that regulate gene expression. miRNAs can be secreted by tumor cells and circulate in the bloodstream. Our aim was to identify circulating miRNAs as candidate biomarkers for the diagnosis of PCa. GeneChip® miRNA 4.0 Arrays (Affymetrix) were hybridized with circulating RNA obtained from serum of PCa patients or healthy donors. Diagnosed PCa patients, free of treatment, were divided into subcategories according to Gleason grade. After data normalization, we identified a list of miRNAs (miR-4668-5p, miR-2277-5p, miR-3613-3p, miR-101-3p, miR-320e-5p, miR-6750-5p, miR-548x-3p, miR-320a, miR-4532, miR-21-5p) that were increased in PCa patients serum compared to healthy donors. To validate these results, NSG mice were inoculated s.c. with PC3 or 22Rv1 PCa cell lines. After tumor growth, mice with tumors and a non-tumor mice group (control) were sacrificed. Blood and tumor samples were collected for RNA isolation. miRNA expression levels were assessed by stem-loop RT-qPCR. miR-4668-5p, miR-2277-5p, miR-3613-3p and miR-21-5p were significantly increased in the circulation of mice inoculated with PC3 cells compared to control. Also, miR-101-3p and miR-3613-3p were significantly upregulated in the plasma of mice that were inoculated with 22Rv1 compared to control. miR-2277-5p was not detected in the plasma of 22Rv1 injected mice. Interestingly, miR-101-3p was increased in circulation of 22Rv1 compared to PC3 injected mice, while miR-4668-5p was increased in plasma of PC3 compared to 22Rv1 injected mice. Additionally, miR-101-3p was upregulated in 22Rv1 compared to PC3 xenografts. In summary, our work defines novel candidate biomarkers for PCa diagnosis based on circulating miRNAs from human serum samples. These biomarkers were also detected in xenografts and plasma from mice.

0338 - "EFFECTS OF CO-CULTURE CONDITIONS ON THE METABOLIC TRANSCRIPTOMIC PROFILE OF PROSTATE CANCER CELLS".