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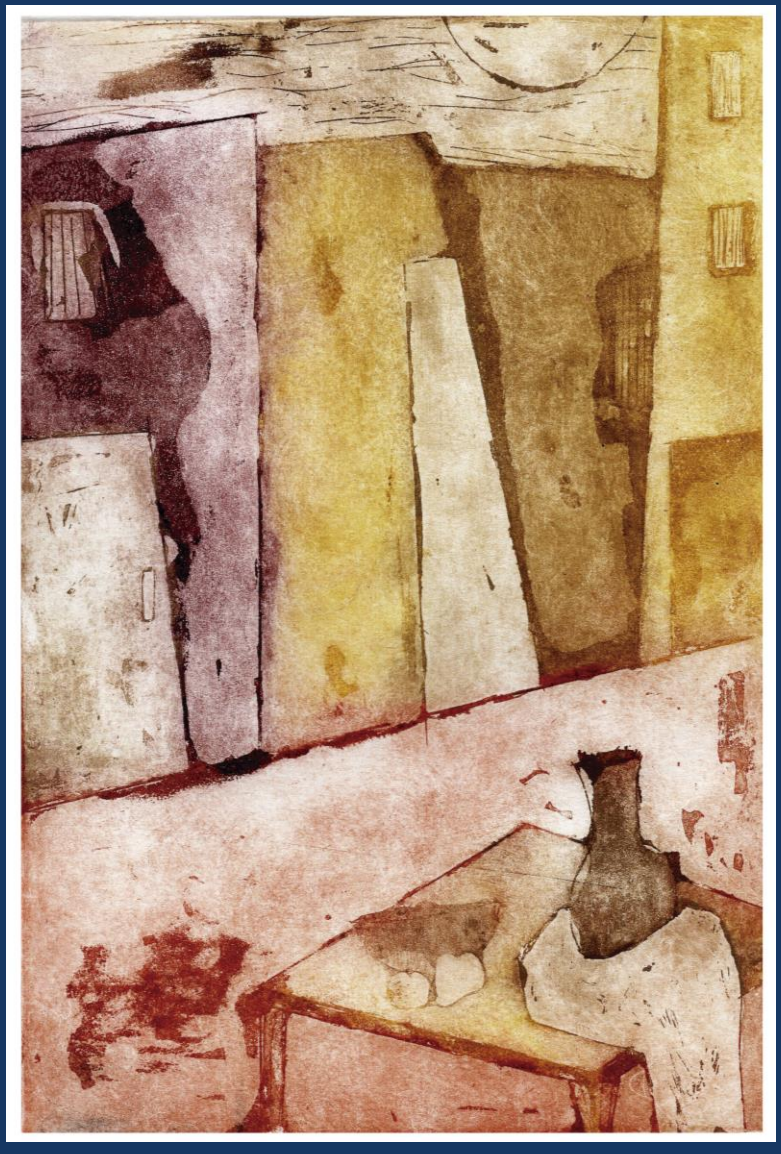

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REUNIÓN ANUAL DE SOCIEDADES DE BIOCIENCIA 2019

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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VI Regional Scientific Meeting of Asociación Argentina
de Ciencia y Tecnología de Animales de Laboratorio
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November 13th – 16th, 2019
Hotel 13 de Julio - Mar del Plata

CHIEF EDITORS

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

low therapeutic index, high cost, prolonged therapeutic schemes, side effects (such as skin rashes, nausea, and gastrointestinal disorders), teratogenicity and drug resistance. This is why the search for new drugs that are more effective and better tolerated by patients is essential. The aim of the present study was to evaluate the synthesis, characterization and in vitro biological performance of a new chemical entity derived from the monoterpenic compound thymol against Trypanosoma cruzi. The derivative was obtained from the conjugation of the free hydroxyl group of thymol with the aliphatic alcohol n-pentanol. The synthesis of the derivative was carried out in two consecutive stages, the first involves the reaction of thymol with N,N-carbonyldiimidazol under nitrogen atmosphere in dichloromethane and the second, the reaction of the intermediary formed with the n-pentanol alcohol. Once the reaction is finished, successive extractions are made in distilled water. The reaction was monitored by thin layer chromatography (TLC) with a mobile phase Hexane: Ethyl Acetate, 6:4. The evaluation of cytotoxicity was carried out by means of the MTT colorimetric test on line U-937 (ATCC CRL-1593.2) with four serial dilutions of the derivative (50-12.5-3.125-0.78 µg/mL). The evaluation of the antitripanosomic activity in vitro was made by the colorimetric method with human macrophages U-937 infected with epimastigotes of T. cruzi strain of Tulahuen. The derivative was added in a series of concentrations (50-12.5-3.125-0.78 µg/mL). The synthesis was simple, economical and with good yields. Thymol and the new derivative were unequivocally identified by nuclear magnetic resonance spectroscopy (1H-RMN, 13C-RMN, COSY, HSQC and HMBC) and infrared and both showed moderate activity against T. cruzi. The new derivative showed lower cytotoxity than the starting compound. The structural modification allowed to improve its efficiency on the model used, presenting a higher selectivity index than the starting compound thymol.

0602 - PROTECTIVE EFFECT OF ENTEROCOCCUS FAECALIS CECT7121 AGAINST TRICHINELLA SPIRALIS INFECTION IN MICE.

Laureano SCHOFS | Monica SPARO | Gaston DELPECH | Paula DOMINGUEZ | Monica CECI | Sabina LISSARRAGUE | Guadalupe DE YANIZ | Sergio SANCHEZ BRUNI

CIVETAN (CONICET-CICPBA-UNCPBA), FACULTAD DE CIENCIAS VETERINARIAS, UNCPBA, TANDIL

Trichinellosis is an important parasitic zoonosis produced by the ingestion of raw or undercooked meat infected by Trichinella spiralis larvae. At the present, the pharmacological treatment against Trichinellosis in human is unsuccessful. Therefore, the potential of viable Enterococcus faecalis CECT7121 culture, administered by oral route, in mice against T. spiralis infection was evaluated. Eighteen BALB/C mice were divided in two groups (n= 9) as follow: A- Experimental Group: E. faecalis CECT7121 strains were administered daily in a dose of 10^9 UFC/mL in 300 µL for five consecutive days. B-Negative control Group: animals received 300 µL of sterile sodium chloride. On day 5 of treatment, whole mice were infected with 450 T. spiralis larvae. Four mice, from both experimental and control group, were sacrificed on day 6 post infection for assessing the amount of T. spiralis adults from the small intestine. At day 28 post infection the remaining mice from each group were sacrificed and the tongue processed in order to estimate the muscle larval burden in that tissue, used as surrogate marker of the number of larvae per g (LPG) of tissue. The test used for groups statistical comparison was Mann- Whitney. A difference of $p<0.05$ was considered significant. The average number of recovered T. spiralis adult worms' from the intestinal content was 105 ± 46 for the treated group and 80 ±42 in control group, resulting in non- significant 24 % of reduction ($p>0.05$). However, the percentage of LPG reductions obtained in tongue tissue after 28 days post- infection increased 62 % ($p <0.01$) in mice treated with E. faecalis CECT7121 as preventive. The quantification of T. spiralis adults in the intestinal content alone was not indicative of presence or absence of protective response when compared with samples obtained from mice tongue tissue. The protective response of E. faecalis CECT7121 against T. spiralis infection will be a contribution to improve the conventional therapeutic against Trichinellosis.

0604 - HIT OPTIMIZATION OF A TRYPANOSOMA CRUZI BROMODOMAIN INHIBITOR IDENTIFIED USING COMBINATORIAL CHEMISTRY

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INSTITUTO DE BIOLOGÍA MOLECULAR Y CELULAR DE ROSARIO (IBR, CONICET/UNR) (1); UNIVERSIDAD NACIONAL DE ROSARIO (2)

Recently, our group has used Dynamic Combinatorial Chemistry targeting the Trypanosoma cruzi Bromodomain factor 3 (BDF3), as a strategy for the identification of a parasite inhibitor, this hit is an acylhydrazone with a Kd of 1.7 µM and and IC50 for epimastigotes, amastigotes and trypomastigotes between 13 and 23 µM. TcBDF3 interacts with acetylated alpha-tubulin present in the cytoskeleton and flagella of T. cruzi and is essential for the viability. TcBDF3 is an interesting target for the development of new trypanocidal drugs that disrupt the bromodomain-acetylated ligand interaction during the parasite differentiation. There are six other proteins with bromodomain in T. cruzi, among which TcBDF2 has also been shown to be essential for the parasite. Today it is a challenge to find selective inhibitors that can distinguish between the different bromodomains, and are more effective and less toxic than the trypanocidal drugs currently use. We prepare a small library of acylhydrazones synthesized from an acylhydrazide nucleus and various aldehydes selected according to the hit previously described by our group for TcBDF3, with the goal of finding more potent and selective inhibitors against TcBDF2 and TcBDF3. The interaction of each hydrazone with TcBDF2 and TcBDF3 from T. cruzi was determined by microplate protein fluorescence quenching assays and Thermal Shift. The results obtained so far allow us to conclude that i) all synthesized hydrazones interact with the hydrophobic pocket of TcBDF3, ii) none of them interact with TcBDF2 up to the highest concentration tested (20 µM), iii) two of the synthesized hydrazones are attractive due to its affinity to TcBDF3 and iv) only one of these hydrazones inhibits the development of epimastigotes of T. cruzi (IC50 <10 µM).

0608 - EXPLORING CLINICAL SEROLOGICAL CORRELATIONS AT LARGE SCALE: CHANGES IN THE ANTIBODY REPERTOIRE OF PATIENTS WITH CHAGAS DISEASE CARDIOMYOPATHY

Alejandro Daniel RICCI (1) | Justo CARBAJALES(2) | Mario PRINCIPATO(2) | Analia PAOLUCCI(2) | Natalia CIAMPI(2) | Alejandra VON WULFFEN(2) | Leonel BRACCO(1) | Juan MUCCI(1) | Fernán AGÜERO(1)

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During an infection, the immune system produces antibodies against pathogens. With time, the immune repertoires of infected individuals become specific to their clinical history and thus represent a rich source of diagnostic markers. How these serological markers correlate with pathology is an open question. Chagas Disease (CD) is caused by the protozoan parasite Trypanosoma cruzi and develops into Chagas Disease Cardiomyopathy (CCD) in ~30 % of cases. CCD can be mild (stage B1) or evolve to cause arrhythmias and bundle branch blocks (stage B2) progressing to dilation (stages C, D) which can result in further symptoms and complications leading to mortality. In this work we investigated serological correlations in 17 individuals at different stages of CCD. Using high-density arrays displaying 2.8 million peptides from the complete proteomes of two T. cruzi strains (CL-Brener + Sylvio X10) we examined antibody repertoires using pooled samples from three groups of CCD patients: stage B1, stage B2, and stages C+D. These pools, were used to map reactive