INP "DR M FATALA-CHABEN" ANLIS MALBRAN (1); INP "DR M FATALA-CHABEN" ANLIS MALBRAN; UNIVERSIDAD ABIERTA INTERAMERICANA (2); INP "DR M FATALA-CHABEN" ANLIS MALBRAN; CONICET (3); INP "DR M FATALA-CHABEN" ANLIS MALBRAN; UNIVERSIDAD ABIERTA INTERAMERICANA; CONICET (4)

Abstract/Resumen: Cyclophilins are chaperone enzymes involved in peptides and proteins folding. Cyclophilin D (CyPD), is localized to mitochondria and is a crucial component of the mitochondrial permeability transition pore, involved in cell death process. With the aim to study the role of CyPD in the experimental T. cruzi infection in CyPD deficient mice were inoculated with 100 trypomastigotes (Tulahuen strain). A lower initial parasitemia in mice deficient of CyPD was observed, but a very high parasite load was observed at 21 days post-infection, with a consequent higher mortality that wild type (WT) mice. Histopathological analysis in the acute phase of the infection did not show any significant differences in heart, liver and skeletal muscle damages between transgenic mice and their controls. Nevetheless, spleens from CyPD knocked out (KO) mice showed lost of the typical architecture that follicle present under T. cruzi infection. Ex vivo studies on mice macrophages and cardiomyocytes infected with T. cruzi, a decrease of around 50 % of infected cells were observed in transgenic mice compared to WT mice, which expressed CyPD. The levels of cytokines IFNγ, TNFα, IL-6, IL-10, IL-17, measured from mRNA of heart tissues of all groups of mice by qPCR were significantly different in CyPD KO mice and WT infected mice compared to their control groups. No differences were observed, however, between mice which expressed CyPD and the ones who did not. The levels of IL-4 y TGFβ cytokines did not show differences among the four group of animals, infected or not. Our results show that mice which do not express CyPD in their mitochondria, showed a differential course of the T. cruzi infection compared to WT mice, regarding parasitemia, survival and parasite load in organs and ex vivo cell cultures.

This Project was supported by ANLIS C.G. Malbrán, PICTO − ANLIS 00136/2011, Focanlis 2017 and CAECIHS − UAI.

0872 - BIOSYNTHESIS OF 5-AMINOLEVULIC ACID IN TRYPANOSOMA CRUZI

Vanesa Rocio PUENTE (1) | Maria Del Carmen MARTINEZ(1) | Lubna ABOU ASSALI(1) | Micaela BENLOLO(1) | Esteban BONTEMPI(2) | Maria Elisa LOMBARDO(1)

CENTRO DE INVESTIGACIONES SOBRE PORFIRINAS Y PORFIRIAS (CIPYP) (1); INSTITUTO NACIONAL DE PARASITOLOGÌA "DR MARIO FATALA-CHABEN" ANLIS MALBRAN; CONICET (2)

Abstract/Resumen: Trypanosoma cruzi requires heme-compounds for growing, due to its partially or totally deficient biosynthetic pathway of heme. There are reports that support the functionality of mitochondrial enzymes involved in this pathway, such as 5-aminolevúlico synthetase (ALA-S) and Heme synthetase (Heme-S). T. cruzi genome is known and two homologous genes, Tc00.1047053511899.40 y Tc00.1047053511071.140, were identified by bioinformatic studies. Both of them are candidates to code with high score (50 %) for the ALA-S enzyme, responsible for synthesizing ALA from succinyl CoA and glycine. Our hypothesis is that the parasite is able to synthesize ALA (although it cannot be metabolized to heme) and the Tc00.1047053511899.40 y Tc00.1047053511071.140 sequences encodes for a protein with ALA-S activity. Using epimastigotes, we were able to detect and quantify, by spectrophotometric studies and HPLC chromatography, the presence of ALA in the parasite both intra and extracellularly. The mesasurements were made in 30ml of parasite culture which yielded about 608.31 ± 45.20 nmol of ALA. The extracellular content represents 96 % of the total synthesized. Such excretion would be avoiding the citotoxicity of ALA since it cannot be metabolized to heme. From bioinformatic studies using the Blast, ORF Finder, Mitoprop, Prosite and ClustalW platforms, it was determined that the above genes would code for a mitochondrial protein (98 %) which is dependent on pyridoxal phosphate and shown a KBL domain, which is characteristic of enzymes as ALA-S. Both, ALA detection and the computer analysis would support our hypothesis and encourages us to continue trying to confirm it.

0873 - COMPARISON OF THE DIAGNOSTIC ACCURACY OF A STANDARD RAPID TEST AND AN ALTERNATIVELY MANUFACTURED TEST FOR HUMAN LEPTOSPIROSIS SCREENING IN ARGENTINA.

Juan Manuel GIMENEZ(1) | Yosena CHIANI(2) | Paulina JACOB(3) | Noelia LANDOLT(2) | M. Fernanda SCHMELING(2) | Bibiana VANASCO(3) | **Nazarena PUJATO** (3)

FACULTAD DE BIOQUÍMICA Y CIENCIAS BIOLÓGICAS- UNIVERSIDAD NACIONAL DEL LITORAL (UNL) (1); INER "DR. E CONI"-ANLIS (2); FBCB (UNL)- INER "DR. E. CONI" (ANLIS) (3)

Abstract/Resumen: Technical difficulties in methodologies used for human leptospirosis detection, limit diagnosis to high/moderate complexity laboratories, hindering accessibility, causing delays in results and putting patient's health at risk. In consequence, development of new rapid tests, technically simple and easily interpretable, is mandatory. Lateral flow immunoassays (LFIs) are suitable diagnostic tools considering the epidemiological features of Leptospirosis. In Argentina, the manufacture of these tests is difficult because of the imported supplies, not always available. In consequences, we developed an alternative device for LFI employing materials easily acquired in our country (LeptoLFI-1). The test yielded the best performance comparing with the current screening test for leptospirosis. Recently, we have developed a standard LFI device (LeptoLFI-0) then the aim of the present work is to evaluate its diagnostic accuracy and compare with LeptoLFI-1. A double-blind assay was perform using a randomly selected panel of 59 serum samples, with different days post infection (d.p.i), classified according to the Leptospirosis standards of Ministerio de Salud. Sensitivity (Se), specificity (Sp), positive and negative likelihood ratio (LR+, LR-) and Youden index (J) were estimated for both LFIs and for the screening tests. As expected, both tests resulted in high performances surpassing the current screening test, not only when data was analyzed globally but also grouping samples by d.p.i. But more importantly, LeptoLFI-1 yielded very similar diagnostic accuracy compared with the standard one. Results suggests that, beyond LeptoLFI-1 implies some extra steps during assay (respect to one-step standard test), the diagnostic performance is not affected. In conclusion, we achieved two accurate LFIs for leptospirosis screening in Argentina. Application of one or another could be subject to economic and import feasibilities according to health or general national state policies.

0915 - "SYNTHESIS AND EVALUATION OF NEO-GLYCOCONJUGATES AS TOOLS FOR THE SEROLOGICAL DIAGNOSIS OF CHAGAS DISEASE."

Ivana DUCREY (1) | María de Los Milagros CÁMARA(1) | Virginia BALOUZ(1) | Rosana LOPEZ(2) | María Eugenia GIORGI(2) | Linda TORO MELGAREJO(2) | Fernán AGÜERO(1) | Rosa M. DE LEDERKREMER(2) | Carla MARINO(2) | Carlos A. BUSCAGLIA(1)

INSTITUTO DE INVESTIGACIONES BIOTECNOLÓGICAS 'DR RODOLFO UGALDE' (IIBIO, UNSAM-CONICET) (1); UBA-CONICET (CIHIDECAR). FACULTAD DE CIENCIAS EXACTAS Y NATURALES. DEPARTAMENTO DE QUÍMICA ORGÁNICA (2)

Abstract/Resumen: The immunodominant glycotope alfa-Galp-(1-->3)-ß-Galp-(1-->4)-GlcNAc (also known as alfa-Gal), expressed in the mucins of the infective trypomastigote stage of Trypanosoma cruzi has been proposed for multiple clinical applications, from xenotransplantation or cancer vaccinology to serodiagnosis of protozoan caused diseases, including Chagas