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ABSTRACTS BOOK

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in 24-well plates were infected for 6h with C. burnetii in the presence of MβCD or U18666A. Then, the cells were processed for indirect immunofluorescence and analyzed by confocal microscopy to quantify internalized bacteria. A significant decrease in the uptake of C. burnetii was observed in cells treated with MβCD. Internalization was lower in cells treated with U18666A than those treated with MβCD. To analyze the participation of dynamins in the bacterial entry into host cell, HeLa cells were infected in the presence of the inhibitor of dynamin Dynasore. The C. burnetii internalized by cells treated with the inhibitor decreased by 60% in comparison of untreated cells. To confirm the participation of dynamins in the internalization process, HeLa cells were transfected with pEGFP-dynamin I-WT (Wild Type), pEGFP-dynamin I-K44A (dynamin negative mutant defective in GTP binding and hydrolysis) or pEGFP-vector (control) and then infected with C. burnetii for 6h. While the overexpression of dynamin I WT showed a slight increase in the internalization, the overexpression of the mutant K44A produced a significant decrease. These results suggest that cholesterol and dynamins are involved in the internalization of C. burnetii by non-professional phagocytic cells.

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SREBP 2 (STEROL- REGULATORY- BINDING- PROTEIN 2) PATHWAY IN TESTIS AND LIVER OF HYPERCHOLESTEROLEMIC RABBITS PROMOTED BY FAT DIET. PROTECTION BY OLIVE OIL ADITTION

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Fat diet promotes hypercholesterolemia and infertility in adult male rabbits without obesity. This metabolic-reproductive disorder is corrected with a decrease in fat diet accompanied with the intake of extra virgin olive oil (AOVE). The underlying cellular and molecular mechanisms are still under research. The general regulation of cholesterol also relies on intracellular regulation. The cellular / molecular balance of cholesterol levels depends on the SREBP 2 pathway and its dependent molecules, such as LDLr or Methyl-Coenzyme A, which are involved in *de novo* synthesis of this lipid. The high fat diet promoted a decrease in the expression of SREBP 2 (mRNA and protein), in rabbits after 3 months compared to control animals that consumed balanced diet for rabbits (GEPSA ®), in both liver and testicle. This drop in expression is more pronounced at 6 months of diet. Interestingly, the addition of AOVE to the diet promoted an increase in the expression of SREBP 2 (both mRNA and protein) in both tissues, hepatic and seminiferous tubule. In addition, it was possible to observe the subcellular localization of the SREBP-2 protein in testes and hepatocytes by immunofluorescence (IFI). In the testicle, the SREBP 2 protein was located in interstitial cells and, depending on the stage of the seminiferous epithelial cycle, Sertoli and/or germline cells. We can infer that dietary fat / circulating cholesterol affects the hepatic and testicular levels, generating alterations such as fatty liver and germinal disorders with abnormal sperm cells observed in previous studies. These changes are due to an imbalance of the intracellular cholesterol regulatory pathway. The AOVE contributes in the correction of the hepatic and testicular histo-physiology.

A94
EVALUATION OF THE ACTION OF NEW MOLECULES ON THE REDOX SYSTEM OF *Trypanosoma cruzi*

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Chagas disease is caused by *Trypanosoma cruzi* (*T. cruzi*) and affects to millions of people worldwide, mostly in Latin America. Despite its sanitary importance, there are currently only two drugs available for its treatment: benznidazole and nifurtimox, both exhibiting serious adverse effects on patients. To complete its life cycle, *T. cruzi* undergoes drastic cellular morphological and biochemical changes as it passes from extracellular epimastigote and trypomastigote forms, to intracellular/tissue non-motile stage, as well as it faces extreme fluctuations such as oxidative environment. It is known that antioxidant defense system in the trypanosomatids is different from mammalian cells, since the parasites have exclusive molecules and reducing enzymes. Due this, parasite redox pathway is an attractive target for antiparasitic therapies. Our study is focused on the action mechanisms of the natural sesquiterpene lactones (STLs) dehydroleucodine (DhL), and here we expanded the study to derivatives: DC-X1, DC-X2, DC-X3, DC-X4, DC-X5, DC-X6 and DC-X7 obtained by chemical substitutions. We have previously described to DhL as a leishmanicida drug by oxidative stress generation. In this work, it is shown an antiproliferative effect of DhL and its chemical derivatives, being the most actives DC-X1 and DC-X3 on *T. cruzi* epimastigotes. This effect was blocked by 3 mM reduced glutathione, suggesting that compounds are reactive upon intracellular sulfhydryl groups. Moreover, *T. cruzi* overexpressing reducing enzymes, showed a protective effect against these compounds. Consistent with these results, the active STLs induced