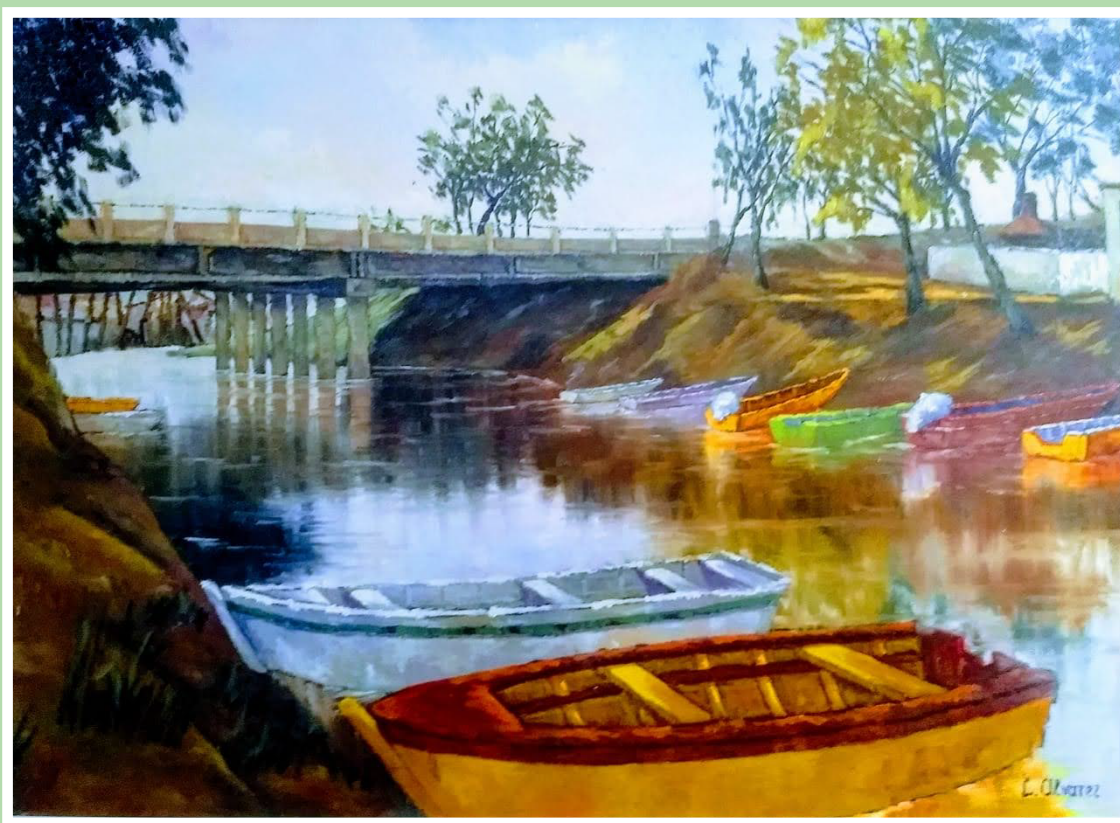


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infected, which might support the involvement of IgG immune complexes in RSV pathogenesis. This genetic factor could also help to predict the worse outcome and identify healthy infants at risk at time of hospitalization.

407. (301) RECOMBINANT TS-BASED NASAL VACCINE PROTECTS AGAINST ORAL INFECTION WITH *T. CRUZI*

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Chagas disease, caused by the *Trypanosoma cruzi* (*Tc*) parasite, is an important public health problem in Latin America. Although there are drugs for its treatment, currently there are no prophylactic vaccines to combat the disease. Here, we evaluated the immunogenicity and prophylactic efficacy generated by a recombinant Trans-sialidase (TSr) expressed in *E. coli*. This fragment was selected by bioinformatics and contains different B and T epitopes. Thus, female BALB/c mice (n=5/6/group) were immunized intranasally (three doses, one every two weeks) with different formulations that combine the TSr with different adjuvants (c-di-AMP or ISPA). As control groups we used mice not immunized (NI) or only treated with TSr. Fifteen days after the last immunization, *in vivo* cell-mediated (delayed hypersensitivity test -DHT-), *in vitro* specific splenocyte proliferation (Ki67 by flow cytometry) and specific humoral (ELISA) response were assayed. Then, animals were orally challenged with 2500 *Tc*/mice (Tulahuen strain). During acute phase, parasitemia, clinical affectation (score), muscle damage (plasma CK) was evaluated. In terms of immunogenicity, TSr+c-di-AMP and TSr+ISPA groups developed an enhanced DHT after 24-48 h, compared to control groups (in all cases, p<0.05). Specific proliferation of CD4 lymphocytes was also enhanced in splenocytes from TSr+c-di-AMP and TSr+ISPA groups (p<0.5 vs. NI and TSr). Moreover, the same animals showed enhanced levels of IgG2a and IgG1 (in all cases, p<0.5). Early parasitemia are less notorious in TSr+c-di-AMP and TSr+ISPA, but only TSr+c-di-AMP animals control more effectively the infection along the acute phase, being their clinical affectation less evident. Coincidentally, CK levels were 9-times lower in this group than NI (p<0.05). Taken together, these results suggest that TSr+c-di-AMP formulation may be a good vaccine candidate for the development of a prophylactic mucosal vaccine against *T. cruzi* infection.

408. (306) CHLAMYDIA TRACHOMATIS DISTURBS ANTIGEN CROSS-PRESENTATION IN INFECTED DENDRITIC CELLS.

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Chlamydia trachomatis (CT) is an obligate intracellular pathogen and the leading bacterial sexually transmitted infection worldwide. Inside the cell, CT lives into a parasitophorous vacuole (inclusion). Recently DC has begun to be studied like a CT host. Dendritic cells (DCs) can cross-present exogenous antigens to T CD8+ lymphocytes, a process that requires several intracellular transport pathways. Knowing that CT perturbs the intracellular transport, we hypothesized that *Chlamydia* may alter antigen cross-presentation by disturbing key intracellular transport events. By using the DC line JAWS-II and the CT serovar L2, we observed that CT evades most of the interaction with the endocytic pathway since CT does not localize to specific markers of early endosomes, lysosomes or multivesicular bodies. However, CT did showed a strong interaction with

the recycling pathway marker TfR and with Rab proteins that control endocytic recycling. Also by confocal microscopy we evidenced a striking redistribution of MHC-I molecules in CT infected DCs. These cells lost their typical MHC-I location in both, the perinuclear recycling center and the plasma membrane. By flow cytometry and WB analysis, we confirmed that MHC-I molecules do not transport properly to the cell surface in infected DCs, as compared to uninfected cells. Although the total amounts of MHC-I molecules are similar in both conditions. By using the model antigen ovalbumin (OVA) and the specific CD8+ T lymphocytes (B3Z) to measure cross-presentation, we found a significant decrease in the cross-presentation ability of infected DCs with both, soluble and latex beads-associated OVA. Finally, we discarded that this effect is caused by loss of endocytic capacity in the infected DC. Altogether these results indicate that CT infection alters the normal MHC-I intracellular distribution and impairs antigen cross-presentation by DCs.

409. (367) NOVEL RESPIRABLE RIFAMPICIN-CURCUMIN LOADED NANOPARTICLES AGAINST MYCOBACTERIUM TUBERCULOSIS INFECTION.

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Rifampicin (RIF) is one of the most powerful and effective first line drug employed in the treatment of *Mycobacterium tuberculosis* (Mtb) infection. With the worldwide emergence of highly drug-resistant tuberculosis (TB), novel agents that have direct antimycobacterial effects or that enhance host immunity are urgently needed. It was described the immunomodulatory anti-TB effects of Curcumin (CUR), a potent anti-oxidant and apoptosis inducer compound. We develop novel RIF-CUR nanoparticles (RIF-CUR NP) with improved drug aqueous solubility and stability for inhalator administration. Then, we analyzed by confocal microscopy the *in vitro* uptake of CUR-NP (20 µg/ml) in human macrophages (derived from PBMCs) at different time points (1h, 18h, 24h and 48h). We found a higher drug cellular uptake levels (intensity/ area) for Mtb antigen-stimulated cells (0.25±0.04) than unstimulated control (0.07±0.02) over 18 hours (ANOVA test, p<0.05). Finally, *in vitro* studies showed the higher microbicidal effect (CFU counts) of the RIF-CUR NP (1µg/ml-1.25µg/ml) versus RIF-NP (1µg/ml) in THP-1 cells infected with MtbH37Rv at 48hours and 4 days (ANOVA test, p<0.05). In summary, the RIF-CUR nanocarrier provides a new simple nanotechnological alternative for its potential application in respirable TB therapy.

410. (368) THE COOPERATIVE ROLE OF YERSINIA OUTER PROTEIN (YOP) P AND GALECTIN-1 IN IMPAIRING PROTECTIVE IMMUNITY BY REPRESSING NITRIC OXIDE PRODUCTION

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