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Programme en maladies infectieuses et immunité en santé mondiale
Infectious Diseases and Immunity in Global Health Program
La recherche pour le bénéfice de la santé mondiale
Improving Global Health through Research

Séminaire / Seminar

IGH IDI

2 octobre / October 2 (12:00)

1001 boul. Décarie, Bloc D, DS1.1427

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Gonçalo Moniz Institute - Oswaldo Cruz Foundation,
National Institute of Science and Technology of Tropical Diseases

LeishDerm: an HSP90 inhibitor-based formulation cures experimental cutaneous leishmaniasis by parasite killing and modulating host immune response

The chemotherapy currently used to treat leishmaniasis presents several limitations, which leads to recurrence. Therefore, the development of new interventions to treat this disease is crucial. Our identification of molecular targets in *Leishmania* infection for chemotherapeutic intervention focused on the activity of the molecular chaperone heat shock protein 90 (HSP90), which is involved in proteins folding. Our group previously demonstrated the efficacy of an HSP90 inhibitor against *Leishmania* spp. and recently tested the efficacy of an aqueous-soluble HSP90 inhibitor, INH2, in an experimental cutaneous model. At early stages of infection, a significant reduction in lesion size and the complete clearance of parasite load in the ears and draining lymph nodes of most animals was observed, in addition to reduce *in vitro* cytokine production (IL-10, IL-6, IFN-γ and TNF) by lymph node cells. Moreover, macrophages from NLRP3-KO C57BL/6 mice treated *in vitro* with INH2 exhibited a delayed ability to control infection compared to WT cells. These data indicate that INH2 is a potent antileishmanial, which also modulates inflammatory host responses that could contribute to infection resolution.

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