



<b>PROJECT TITLE</b>	PERLEISH: Synthetic peroxides as new potential anti-Leishmania chemotypes - Refª IF/00743/2015
<b>BRIEF DESCRIPTION</b>	This project aims to investigate the potential of selected peroxides, as anti-leishmanial agents, and thus contribute to development of a new therapeutic strategy for treatment of one of the main Neglected Tropical Diseases- Leishmaniasis. Leishmaniasis, in particular in its visceral form, causes huge health, social and economic problems in some regions in developing countries and there is an urgent need for safe, non-toxic and cost-effective drugs. Previous results obtained by S. Cortes and collaborators (from GHTM)/IHMT and CCMAR/UAlg) have shown that some arteminin derivatives and synthetic peroxides (trioxolanes) reduced Leishmania parasites' viability at low concentrations, with good in vitro safety profiles.
<b>OBJECTIVES</b>	Main objectives include testing a peroxide's compound library and further with drug combinations through 1) in vitro susceptibility assays on vector stage parasites, 2) in vitro susceptibility assays on mammal stage parasites, with toxicogenetics and ultrastructural alterations assessment and 3) in vivo tolerance/ efficacy of the most promising compounds and assessment of different delivery routes.
<b>IMPLEMENTATION</b>	1) In vitro susceptibility tests in the two stages of the life cycle of the Leishmania parasite (promastigotes and amastigotes); 2) Cytotoxicity and genotoxicity of selected compounds in macrophages; 3) Determination of selectivity indices; 4) Study of mechanisms underlying the activity of the most active compounds (physiological and structural tests); 5) <i>in vivo</i> studies with selected peroxides.
<b>FUNDING AGENCY</b>	Fundação para a Ciência e Tecnologia (FCT)
<b>COORDINATOR INSTITUTION</b>	Instituto de Higiene e Medicina Tropical
<b>DURATION</b>	2017 - 2019
<b>PRINCIPAL INVESTIGATOR</b>	Sofia Cortes (GHTM/IHMT)
<b>RESEARCH TEAM / INSTITUTION</b>	Instituto de Higiene e Medicina Tropical/ Global Health and Tropical Medicine, Portugal (Coordinator Institution): Lenea Campino;  Centro de Ciencias do Mar, Universidade do Algarve (CCMAR/UAlg), Portugal: Maria de Lurdes Cristiano;