Instituto de Medicina Molecular João Lobo Antunes

Master Project Proposal

Title: Role of IL7R signalling in triple negative breast cancer

Synopsis: Interleukin-7 receptor (IL7R) is essential for lymphoid development, and a major driver of leukemogenesis. However, the role of IL7R signalling in solid tumors remains widely unexplored. The purpose of the project to be developed by the Master student, who is expected to work full time on the project, is to evaluate the role of IL7R signalling in triple negative breast cancer (TNBC). The specific objectives are to characterize IL7R downstream signalling activation in TNBC cell lines; to determine the influence of IL7R signalling in cell proliferation, migration and invasion; and to determine the impact of IL7R signalling modulation in tumor growth in vivo. The student will apply several in vitro techniques, such as Western blot, Alamar blue and clonogenic assays, Flow cytometry, as appropriate. The student is also expected to have or acquire certification to conduct animal experimentation, and to develop in vivo models of TNBC (tumor injection, animal monitoring, sample processing and analysis – including Flow cytometry, IHC, RNAseq). This exciting project will be performed in the framework of a starting collaboration of three internationally-recognized laboratories located at Instituto de Medicina Molecular and Faculdade de Medicina da Universidade de Lisboa, Portugal (Prof. João Barata and Prof. Luís Costa), and at the University of Manitoba, Canada (Prof. Jody Haigh).

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