Team "Heme, Ubiquitin, and Lung Cancer"

Project title: **"Investigating the role of Heme-oxygenase-1 in Pancreatic Cancer"**
Supervisors: **Luca Lignitto**
Type of rotation: **M2 (6 months)**
MMG Host Lab: **Lignitto Team**
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Concept and Objectives.

A line of research in our lab is interested in understanding the role of Heme-oxygenase 1 (HO-1) in the pathogenesis and development of Pancreatic Cancer, one of the most lethal human cancers. Specifically, we are interested in the mechanisms which control the degradation of HO-1 in this cancer, as high levels of HO-1 are associated with cancer progression and resistance to treatment. We aim to dissect the mechanisms by which HO-1 regulation influences cancer progression and subsequent responses to therapeutic intervention.

We are searching for a highly motivated M2 student who will design and execute a research project exploring the genetic and environmental factors impacting HO-1 degradation in Pancreatic Cancer. You will employ a wide range of experimental techniques, including molecular biology, biochemistry, and CRISPR/Cas9-based genome editing, to uncover novel insights. You will have access to state-of-the-art technology at the Marseille Cancer Research Center (CRCM), and have the opportunity to work in close collaboration with a diverse group of scientists including molecular biologists, biochemists, immunologists, and clinicians.

Qualifications

• Creative thinking, willingness to learn new skills, excellent problem solving and organizational skills, and an ability to multitask. Priority goes to highly motivated and organized individuals committed to doing impactful research, with great attention to detail and excellent team-work skills.

• We are an English-speaking lab, therefore English proficiency is required.

Application Procedure

Interested applicants can send their CV and motivation letter to Dr. Luca Lignitto at luca.lignitto@inserm.fr and Dr. Jack Jordan at jack.jordan@inserm.fr

Applications will be considered immediately.

References

1) Lignitto, L., LeBoeuf, S. E., Homer, H., Jiang, S., Askenazi, M., Karakousi, T. R., Pass, H. I., Bhutkar, A. J., Tsirigos, A., Ueberheide, B., Sayin, V. I., Papagiannakopoulos, T., & Pagano, M. (2019). Nrf2 Activation Promotes Lung Cancer Metastasis by Inhibiting the Degradation of Bach1. Cell, 178(2), 316–329.e18. https://doi.org/10.1016/j.cell.2019.06.003

2) Romero R. *et al.* Keap1 loss promotes Kras-driven lung cancer and results in dependence on glutaminolysis. *Nature Medicine*. (2017).