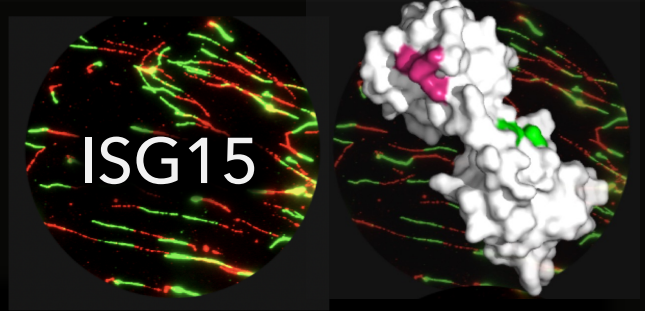


Penengo Lab

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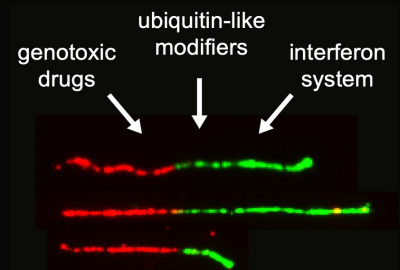
Master Thesis



The Interferon system in the control of DNA replication

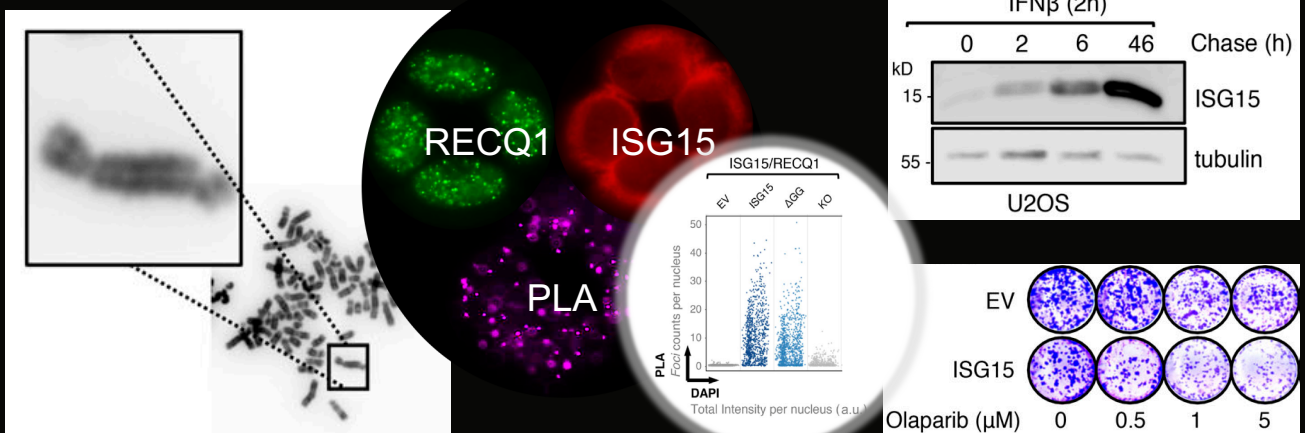
Background: The ubiquitin-like modifier ISG15 (Interferon-Stimulated Gene 15) is strongly induced by interferons, bacterial and viral infection. ISG15 is emerging as an **important oncoprotein** and a potential **diagnostic and therapeutic target for cancer**. Despite its interest for human health, a functional and comprehensive analysis of the role of Interferon/ISG15 system in carcinogenesis is still missing.

Goal: Deciphering the role of Interferon/ISG15 in the maintenance of genome integrity, by focusing on their specific role in the DNA damage response and DNA replication.



References

Raso et al, J Cell Biol 2020. doi: 10.1083/jcb.202002175
Moro et al, Nat Comms 2023. doi: 10.1038/s41467-023-41801-w



Techniques: We use various techniques: biochemistry, molecular and cellular biology, proteomics, gene editing techniques based on CRISPR/Cas9 technology, FACS analysis, clonogenic assay, single DNA molecule assays to measure DNA replication, immunofluorescence and quantitative imaging.

Context: The Lab is located at the Institute of Molecular Cancer Research (IMCR), a worldwide renowned centre dedicated to genome stability. The student will be exposed to a vibrant atmosphere and an international scientific environment and will participate to scientific discussions during meetings and journal clubs.

Candidate: We are looking for highly-dedicated students with good communication skills and propensity for teamwork, genuinely interested in understanding the mechanisms of cancer development.

Interested in the position? Please send an email to: penengo@imcr.uzh.ch