POST-DOCTORAL POSITION
TO EXPLOIT iPSC-BASED DISEASE MODELS TO STUDY THE MOLECULAR BASIS OF THE AICARDI-GOUTIÈRES SYNDROME

A post-doctoral fellow position is immediately available in the **Retrovirus-Host Interactions and Innate Immunity to Gene Transfer Lab**, led by **Anna Kajaste-Rudnitski** at the San Raffaele Telethon Institute for Gene Therapy (SR-Tiget), Milan, Italy.

About the project

Aberrant sensing of nucleic acids originating from the expression of endogenous retroviral elements or accumulating DNA damage and consequent increase in type I IFN levels have been suggested to be a primary driver of pathogenesis of the Aicardi-Goutières Syndrome (AGS), a genetic Leukodystrophy that mainly affects the brain, immune system and skin. Nevertheless, the precise molecular mechanisms triggering the disease remain elusive. On these premises, we are recruiting a post-doctoral fellow with **strong experience in iPSC-based differentiation of Neural Stem Cells and Progenitor** and/or **innate immunity to viral infections** to work on a project aimed at evaluating the consequences of the AGS gene defects in the human Central Nervous Systems (CNS) taking advantage of iPSC-based *in vitro* differentiations. The goal is to elucidate the **role of different cell types of the CNS, including microglia, in AGS** and to investigate **what are the endogenous signals that aberrantly activate the disease-causing antiviral responses** in these cells. We combine molecular virology approaches with state-of-the-art NGS technology and proteomics in the highly relevant context of human iPSC-based in vitro disease models.

What we look for

The candidate must hold a PhD Degree in Biological Sciences, Biotechnology or related disciplines with skills in molecular and cellular biology, as well as primary human cell culture and manipulation. Experience in iPSC culture and differentiation is a significant plus. Proficient English, independent working capacity, excellent organizational skills and team spirit are required.

What we offer

The successful candidate will be offered a **3-year renewable contract** with possible extension thereafter and a competitive salary, negotiated depending on experience.
As part of the SR-TIGET, a world-leading Institute in the fields of gene and cell therapy for the treatment of human genetic diseases, we benefit from a highly competitive, international and scientifically stimulating environment and offer excellent working conditions, training opportuinities, state-of-the-art facilities and infrastructures (NextGeneration Sequencing, Cell Sorting and Imaging, Animal Facilities), and access to clinically relevant human samples. Milan is a vibrant international city and is an excellent location for arts, commerce, design, entertainment, fashion and gastronomy!

Interested candidates should submit their application with a detailed CV, a cover letter, and names of 1-2 references to Anna Kajaste-Rudnitski, kajaste.anna@hsr.it

Website: https://research.hsr.it/en/institutes/san-raffaele-telethon-institute-for-gene-therapy/retrovirus-host-interactions-and-innate-immunity-to-gene-transfer.html
Twitter: https://twitter.com/KajasteLab

Selected Publications:

- *Piras F and Kajaste-Rudnitski A*. Antiviral immunity and nucleic acid sensing in haematopoietic stem cell gene engineering.* ***Gene Ther****. 2020 Jul 13:1-13. (*corresponding author; lab member)*
- *Petrillo C, Thorne LG, Unali G, Schiroli G, Giordano AMS, Piras F, Cuccovillo I, Petit SJ, Ahsan F, Noursadeghi M, Clare S, Genovese P, Gentner B, Naldini L, Towers GJ, Kajaste-Rudnitski A*. Cyclosporine H Overcomes Innate Immune Restrictions to Improve Lentiviral Transduction and Gene Editing In Human Hematopoietic Stem Cells.* ***Cell Stem Cell****. 2018 Oct 24. pii: S1934-5909(18)30489-2. (*corresponding author; lab member)*
- *Piras F, Riba M, Petrillo C, Lazarevic D, Cuccovillo I, Bartolaccini S, Stupka E, Gentner B, Cittaro D, Naldini L, Kajaste-Rudnitski A*. Lentiviral vectors escape innate sensing but trigger p53 in human hematopoietic stem and progenitor cells.* ***EMBO Mol Med.*** *2017 Sep;9(9):1198-1211. (*corresponding author; lab member)*