

Martinez lab

Master's Thesis:

“Affairs of the human oxidoreductase PYROXD1”

About the Martinez lab

We study “RNA’s *puberty*” or, in other words, the series of enzymatic reactions that turn a precursor RNA into a mature, functional RNA. We have recently revealed that the tRNA ligase complex (tRNA-LC), once believed to be an exemplary robust enzyme that joins tRNA exon halves during pre-tRNA splicing, is afraid of becoming oxidized and, as a result, inhibited. Luckily, evolution has helped the sensitive tRNA-LC to survive in the aerobic world by providing a tight companion, an oxidoreductase named **PYROXD1**, that protects it against oxidation employing a biochemically novel mechanism.

About the position

Can we say that PYROXD1 is an “unfaithful enzyme”? Yes, because while protecting the tRNA-LC, PYROXD1 also supports the function of other enzymes, specifically those that host a metal ion. Rather than blaming evolution, we will investigate those affairs, and you will become a “**Molecular Detective**”! In fact, we think that PYROXD1 could have a secret role in the metabolism of some metal ions! In our Lab, you will learn biochemistry, molecular biology and different “omics” – metallomics, metabolomics – in collaboration with the facilities at the Vienna BioCenter. You will be trained to think, write and present like a scientist in a vibrant, creative and curious lab atmosphere!

Candidates

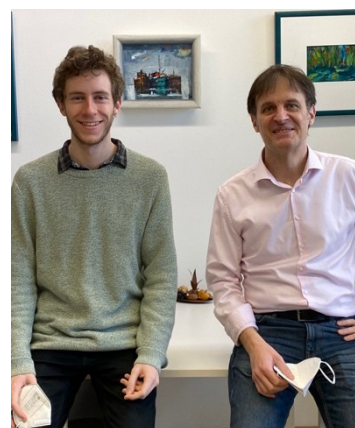
Successful candidates should have experience at the bench and must have finished their Bachelor. We encourage students that are fond of chemical mechanisms involving metal ions to apply. We are looking for hard-working students, with passion for science and ready to go the extra-mile.

Contact

Please contact us until March 15th if you are interested in joining forces to tackle the affairs of PYROXD1! In your email, please enclose a CV and a short letter of motivation. We will then conduct a short interview via zoom or in person.

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Javier Martinez, Group Leader javier.martinez@meduniwien.ac.at



About the Max Perutz Labs

The Max Perutz Labs is a research institute established by the University of Vienna and the Medical University of Vienna to provide an environment for excellent, internationally recognized research and education in the field of Molecular Biology. Dedicated to a mechanistic understanding of fundamental biomedical processes, scientists at the Max Perutz Labs aim to link breakthroughs in basic research to advances in human health. The Max Perutz Labs are located at the [Vienna BioCenter](#), one of Europe’s hotspots for Life Sciences, and host around 50 research groups, involving more than 450 scientists and staff from 40 nations. www.maxperutzlabs.ac.at

MAX PERUTZ LABS

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