



We are offering:

MSc Thesis in Placental Cell Biology Regulation

at 82152 Planegg-Martinsried, Großhaderner Str. 9.

Institution: Basilicata Lab, Division of Physiological Chemistry –
Biomedical Center (BMC) of the Faculty of Medicine

Start Date: as soon as possible

Our Research

Our lab is located at the Institute of Physiological Chemistry, headed by Prof. Ladurner and is part of the Biomedical Center (BMC) of the LMU Faculty of Medicine. Our research explores how alterations in chromatin regulation affect other cellular organelles, why some of these conditions are more common in one sex than the other, and how very different mutations can trigger similar developmental problems.

More information: <https://www.med.lmu.de/bmc/de/forschung/forschungsgruppen/basilicata-lab/>

Project Description

The placenta represents a remarkable temporary organ exclusive to placental mammals, yet its complex physiology varies dramatically between species. Its gene expression regulation layers differ from most other cells in the organism (e.g. imprinting, sex chromosome regulation, transposon activation) and alteration of its establishment and function can have long lasting effect on the developing embryo and fetus.

Key objectives will include

Our project focuses on establishing co-culture systems to study how environmental factors regulate placental-maternal interface interactions. You will investigate placenta-specific environmental requirements for proper differentiation and self-organization with embryonic cells, and understand the critical regulated exchanges between the maternal environment and developing fetus.

Techniques You Will Learn

- Establishment of TSC and iTSC cell culture
- Inducible knock-in and transgene line establishment
- Validation of differentiation potential and co-cultures
- Expression analysis via RT-qPCR and protein analysis via western blot
- Immunostaining & Confocal microscopy
- Image quantification, Statistics
- Scientific figure preparation

Requirements:

- Currently enrolled in a Master's program (Molecular Biology, Biology or Developmental Biology, Biomedical Sciences, Human Genetics or a related field)
- Enthusiasm for developmental biology and genomics
- Good communication skills in English
- Commitment to scientific accuracy and collaborative research
- Time management will require flexibility
- Previous wet lab experience would be desired.

Our offer:

- This position offers an exceptional opportunity to develop novel toolbox and generate knowledge on one of the most fascinating yet understudied organ in mammalian biology.
- Direct supervision of the PI with hands-on experience
- A good working atmosphere, a motivated team, and training
- Free parking spaces
- Several cafeterias and cafés on campus and student discounts

Application:

Please send your CV, most up-to-date transcripts, and a one-page motivation letter to: applications.physiolchemistry@bmc.med.lmu.de (with the subject line: *BasMas*).