A European Research Training Network at the Interface of Cell/Molecular Biology and Membrane Physics

Topic: Biochemical and mechanochemical mechanisms in polarized cells

Call: HORIZON 2020-MSCA-ITN-2014
Proposal Number: 641639

Project title: Regulation of epithelial cell polarization and ciliogenesis via cell confinement

Type of position: Early Stage Researcher (ESR)/ PhD position

Short description:
Cell confinement is a novel main regulator for epithelial cell polarization and ciliogenesis, however the molecular mechanisms are largely unknown. The goal of this project is 1.) to establish multi-PDZ domain proteins as components of the mechanotransduction pathway important for epithelial cell polarization and cilia formation 2.) to develop a screening platform for identifying additional player of mechanotransduction 3.) to analyze the relevance of these proteins with respect to cancer formation and metastasis in innovative organ on a chip in vitro models.

TECHNIQUES: 3D cell cultures with different mechanical properties, Micropatterning, siRNA-technology, Cell imaging (confocal spinning disk), in vitro tumor invasion assays

Literature:
Hagemann, N., Ackermann, N., Christmann, J., Brier, S., Yu, F., and Erdmann, K.S. The serologically defined colon cancer antigen-3 interacts with the protein tyrosine phosphatase PTPN13 and is involved in the regulation of cytokinesis, Oncogene, 32, 4602-4613 (2013)


Freiss, G., Chalbos, D. PTPN13/PTPL1: an important regulator of tumor aggressiveness. Anticancer Agents Med Chem. 11, 77-88 (2011)

Job Requirements: Experimental background in cell biology, biochemistry, molecular genetics or biophysics.

Host Institute:
Department of Biomedical Science
University of Sheffield
Western Bank
S10 2TN Sheffield
United Kingdom
Eligibility: There are strict eligibility requirements for the ESR PhD positions in MSCA-ITN. Please ensure that you qualify before applying, as ineligible candidates cannot be considered.

• Applicants must not have resided or performed their main activity (work, studies, etc.) in the UK for more than 12 months in the 3 year period immediately prior to the start date of the PhD research.

• Applicants must not have already a PhD

For more information on MSCA-ITN, visit http://ec.europa.eu/research/mariecurieactions/index_en.htm

Starting date: 01.07.2015 (or later)

Duration: 36 months

Salary: According to the Marie Curie-ITN rules

How to apply: please send the following documents via e-mail directly to Dr. Kai Erdmann

- A complete CV
- Copies of University Master certificates or equivalents
- Contact details of two referees, who can provide a letter of recommendation

For further information: http://www.sheffield.ac.uk/itn-biopol