

At the Theodor Kocher Institute, University of Bern

a PhD position

is available to work on

T cell migration across the blood brain barrier (BBB)

under the supervision of Dr. Ruth Lyck and Prof. Dr. Britta Engelhardt.

Based on the distinct roles for endothelial ICAM-1, ICAM-2 and VCAM-1 in shear resistant arrest, firm adhesion and crawling of T cells on the BBB under physiological flow the present project aims to define the contribution of the individual IgCAMs in mediating transcellular or paracellular T cell diapedesis across the BBB. This will be achieved by employing a broad panel of experimental techniques including molecular biology, cell culture and live cell imaging. In addition novel transgenic mouse models will be created as a source for GFP-tagged IgCAM expression in BBB endothelial cells.

We seek a highly motivated student with a master degree in life sciences and a strong interest in cell biology, immunology and live cell imaging techniques.

We offer a state-of-the-art working environment, a highly motivated international team and excellent supervision. The project will be co-headed by Dr. Ruth Lyck (PhD) and Prof. Dr. Britta Engelhardt (PhD) (www.tki.unibe.ch). Skill enhancement and educational training will be guaranteed by the interfaculty Graduate School for Cellular and Biomedical Sciences at the University of Bern (www.gcb.unibe.ch). Working place will be the Theodor Kocher Institute, Freiestrasse 1, University of Bern, 3012 Bern, Switzerland.

Interested applicants are invited to send their letter of motivation, CV, certificates and 2 letters of reference via E-mail to **Prof. Britta Engelhardt (bengel@tki.unibe.ch)**.

For further information please see

Differential Roles for Endothelial ICAM-1, ICAM-2, and VCAM-1 in Shear-Resistant T Cell Arrest, Polarization, and Directed Crawling on Blood-Brain Barrier Endothelium.

Steiner O, Coisne C, Cecchelli R, Boscacci R, Deutsch U, Engelhardt B, Lyck R. J Immunol. 2010 Sep 22. [Epub ahead of print]

Comparison of immortalized bEnd5 and primary mouse brain microvascular endothelial cells as in vitro blood-brain barrier models for the study of T cell extravasation.

Steiner O, Coisne C, Engelhardt B, Lyck R. J Cereb Blood Flow Metab. 2010 Jul 7. [Epub ahead of print]

T-cell interaction with ICAM-1/ICAM-2 double-deficient brain endothelium in vitro: the cytoplasmic tail of endothelial ICAM-1 is necessary for transendothelial migration of T cells.

Lyck R, Reiss Y, Gerwin N, Greenwood J, Adamson P, Engelhardt B. Blood. 2003 Nov 15;102(10):3675-83.