

Outline

IRTG 914 Basic Principles Seminar and Advanced Methods Course

Topic 'Surgical approaches to study leukocyte migration in vivo'

Studying the mechanisms leukocytes exploit to migrate into and out of organs remains critical to understand leukocyte migration patterns in the whole organism. Within this advanced method course we will discuss leukocyte trafficking patterns in the mouse and how to analyze them.

We will mainly concentrate on visualizing leukocyte endothelial cell interactions in 4 colors using the cremasteric microcirculation combined with multichannel intravital microscopy [1] and demonstrate ways to harvest efferent lymph from animals. Other techniques such as surgical denervations [2] as well as other microcirculatory systems such as the ear, the calvarial bone marrow, the liver and the lymph node will be discussed.

Speaker BPS: Christoph Scheiermann, LMU

Supervisors AMC: David Druzd

Alba de Juan

Literature:

[1] Chiang EY, Hidalgo A, Chang J, Frenette PS. Imaging receptor microdomains on leukocyte subsets in live mice. *Nat Methods*. 2007 Mar;4(3):219-22.

[2] Scheiermann C, Kunisaki Y, Lucas D, Chow A, Jang JE, Zhang D, Hashimoto D, Merad M, Frenette PS. Adrenergic nerves govern circadian leukocyte recruitment to tissues. *Immunity*. 2012 Aug 24;37(2):290-301.