Role of clathrin-coated plaques in regulating cell migration

Clathrin is a unique scaffold protein, which forms polyhedral cages at the plasma membrane assembling into flat and curved lattices. The function of the curved clathrin-coated pits in forming endocytic structures is well studied. However, the functions of the large flat clathrin arrays (a.k.a. clathrin-coated plaques) remain elusive. We have recently identified the origin and started to elucidate the function of plaques during cell migration. We propose that clathrin-coated plaques may act as regulator of unconventional collective migration in a cell-to-cell contact independent manner. For more details, please check the following preprint on BiorXiv: https://www.biorxiv.org/content/10.1101/493114v1

We are seeking for a motivated postdoc with a strong background in cell biology and live cell fluorescence microscopy. We want to utilize a multidisciplinary approach, combining classical cell biology, biophysics, chemical biology and surface patterning to investigate the molecular/biophysical signals that drive clathrin plaque recruitment and regulate cell migration? Additionally, we will aim at addressing the following: What are the molecular components that stabilize a clathrin coat into a clathrin-coated plaque? and how do plaques regulate cell migration?

For more information contact:

Steeve Boulant, PhD

Center for Integrative Infectious Diseases research
Department of Infectious Diseases, Virology
Heidelberg University Hospital
Im Neuenheimer Feld 344
Room 020
69120 Heidelberg, Germany
s.boulant@dkfz-heidelberg.de
http://www.boulantlab.com/