

Prof. Dr. rer. nat. Hajo Haase
FG Lebensmittelchemie und Toxikologie

TU Berlin, Institut für Lebensmitteltechnologie und Lebensmittelchemie
Sekt. TIB 4/3-1, Gustav-Meyer-Allee 25,
D-13355 Berlin

Institut für
Lebensmitteltechnologie
und Lebensmittelchemie

Ihr Zeichen: Ihre Nachricht vom: Tel.: (030) 314 -72788
Fax: (030) 314 -72823
E-Mail: Haase@TU-Berlin.de

Datum: 6. Juli 2016

*Master Thesis at the Department of Food Chemistry and Toxicology
(Technical University Berlin)*

Zinc signals as part of the innate immune response in *Drosophila melanogaster* hemocytes

Numerous studies in recent years provided strong evidence that zinc ions (Zn^{2+}), beside their function as a structural component or as part of the catalytic core of enzymes, control cellular processes by acting as a second messenger in signal transduction cascades. The role of Zn^{2+} and zinc homeostasis in regulating immune-regulatory signaling pathways in humans has been one of the topics in our group during the last years, including its function in innate immunity (for an overview see Maares, H. & Haase, H. (2016); Haase, H. & Rink (2009)).

The innate immune response is the oldest defense of living organisms against pathogens and many of its mechanisms have been conserved throughout evolution. It has been developed long before vertebrates appeared, and non-vertebrates rely exclusively on innate immunity to defend against pathogens.

The main focus of the proposed master thesis will be to characterize the role of Zn^{2+} in innate immune response of *Drosophila melanogaster* hemocytes. The student will gain experience in cell culture, cell viability test methods, quantification of gene expression by real-time quantitative PCR as well as an insight into cell signaling profiling.

For additional information about our ongoing research and laboratory, please refer to our homepage http://www.lmc.tu-berlin.de/menue/fachgebiete/fg_haase/forschung/

If you are interested in this project, please send a brief introduction about yourself and your CV to c.keil@tu-berlin.de



Univ.-Prof. Dr. rer. nat. Hajo Haase

Maares, H. & Haase, H. (2016) Zinc and immunity: An essential interrelation. Arch Biochem Biophys. doi: 10.1016/j.abb.2016.03.022 ;

Haase, H. & Rink, L. (2009) Functional significance of zinc-related signaling pathways in immune cells. Annu Rev Nutr. 29:133-52