

# *Colloquia in Physiology & Vascular Biology*

Venue: Medical University Vienna, Center for Physiology and Pharmacology,  
Institute of Physiology, Schwarzschanierstrasse 17, 1090 Vienna, "**gr. HS. Physiology**".  
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Friday 15.09.2017 11:00 Host: G. Schabbauer

## *Regulation of immunity by amino acid metabolism*

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### *Abstract:*

Immune cells are auxotrophs for the 9 essential amino acids and most of the non-essential amino acids such as glutamine and serine, where their importation is required for immune-centric functions such as lymphocyte proliferation, antigen presentation and microbial killing. The requirements for exogenous amino acids is also tightly linked with immune regulation: in situations where one cells can deprive another cell of an essential amino acid, then a regulatory checkpoint is possible. Here I will discuss how arginine and tryptophan are the principle amino acid checkpoints. Placing these pathways in contact of health and disease, I will discuss our studies on amino acid metabolism in infection and cancer, and how immune cells calculate how much amino acid resources are needed for their functions.