Institute of Molecular Genetics
of the Czech Academy of Sciences

Regular Wednesday IMG seminar

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"How antigens get distributed in the thymus"

The presentation of self-antigens in the thymus by medullary thymic epithelial cells (mTECs) and dendritic cells (DCs) is crucial for the establishment of central tolerance. While mTECs produce and present self-antigens in an autonomous manner, DCs acquire them from mTECs by cooperative antigen transfer (CAT). Although CAT represents a key process of central tolerance, molecular determinants which define CAT's effectivity as well as the the capacity of DCs to subsequently present highjacked antigens are largely unknown. To reveal the nature of these determinants, we compared the transcriptomes of CAT-experienced and inexperienced DCs via scRNAseq. In this seminar, we will focus on one such a determinant of CAT, gene product encoding the tight junction protein, CLAUDIN 1. A series of experiments demonstrated that CLAUDIN 1 is a regulatory molecule which coordinates CAT and T cell selection processes. The comprehension of these processes will aid in the resolution of the current controversy concerning the role of DCs in central tolerance.

The seminar will be held

on Wednesday 12th June 2024 at 15:00

in the Milan Hašek Auditorium at IMG

(Institute of Molecular Genetics of the Czech Academy of Sciences, Vídeňská 1083, Prague 4)