

The Department of Physiology
in collaboration with
The Department of Microbiology & Immunology
Presents

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Controlling the killers:

Mechanisms of CD8 T cell tolerance

T cells play a central role in both eliminating pathogens and cancers, but are also drivers of autoimmunity. During T cell development in the thymus, a variety of mechanisms operate collectively to regulate T cell tolerance. For CD8⁺ T cells, the most well-studied central tolerance mechanism is clonal deletion, however, other mechanisms such as functional inactivation have been described. Our studies have shown that while robust clonal deletion can purge the T cell repertoire of most of the highly self-reactive CD8⁺ T cells, anergy induction in the remaining highly self-reactive cells is needed for self-tolerance. Furthermore, signaling through the co-inhibitory receptor PD-1 is needed for establishment and maintenance of tolerance. Collectively, our data shed light on the contributions of different central tolerance mechanisms and highlight the importance of thymic anergy in self-tolerance.



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**McIntyre Medical
Sciences Building**
Room 1034