

Medicine, Nursing and Health Sciences

Biomedicine Discovery Lecture

Faculty of Biomedical and Psychological Sciences

Lecture Title:

Negative Selection and Regulatory T Cell Development in the Thymus

Date & Time: Friday 26 September, 2.00 pm

Location:

Seminar Room G29, Building 82, New Horizons,
Monash University, Clayton campus

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Abstract

The thymus induces self-tolerance by preventing thymocytes with autoreactive TCR from maturing into functionally reactive pathogenic T cells. On a clonal level, high affinity TCR/CD28 engagements signal individual thymocytes to either undergo clonal deletion or, alternatively, to differentiate into Foxp3+ regulatory T cells (Tregs) that prevent autoreactive T cells from becoming pathogenic. Importantly, it remains mysterious why some TCR/CD28 signaled thymocytes die during thymic selection and others survive to differentiate into Tregs. New experiments now reveal an unexpected impact of clonal competition on cell fate determination during thymic selection and lead to a novel understanding of the relationship between clonal deletion and Treg generation.



Presenter

Dr Alfred Singer

*Experimental Immunology
Branch Head, Center for
Cancer Research, NIH*

About the Presenter

Dr Alfred Singer heads the Experimental Immunology Branch, National Cancer Institute at the National Institutes of Health. His research is focused on identifying and characterizing the signaling events that drive T cell differentiation in the thymus, especially the signaling events known as 'positive selection' that result in the exclusive generation of functionally mature T cells with specificity for peptide-MHC complexes. His laboratory identified the molecular basis for thymic selection of an MHC-restricted T cell repertoire and identified the mechanism by which developing T cells determine their appropriate lineage fate. Dr Singer received his BS from MIT and his MD from Columbia University.

This Biomedicine Discovery Lecture is part of the Immune Cell Signalling Mini-Symposium.

For more information and free registration:

www.med.monash.edu/research/mini-symposium.html

Enquiries: med-bch-events@monash.edu



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