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To B or not to B? PI3K decides!

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ABSTRACT

Among the numbers of diverse B cells that are generated daily in the bone marrow, only half enter the primary B cell repertoire to patrol the body, and these are the ones that are less self-reactive. Autoreactive B cells that bind self-antigen with high avidity in the bone marrow undergo mechanisms of central tolerance that prevent their entry into the peripheral B cell population. These mechanisms are breached in many autoimmune patients increasing their risk for B cell-mediated autoimmune diseases. But what are the biochemical pathways that regulate the entry of bone marrow B cells into the periphery? How do these pathways operate? And what are the consequences when these pathways are altered? This seminar will present our findings from studies of mice that generate autoreactive or nonautoreactive B cells, as well as humanized mice with human B cells.

BIO:

Dr. Roberta Pelanda was born in Milano, Italy, where she received an M.S. in Biological Sciences and a Ph.D. in Cellular & Molecular Biology from the University of Milano. She trained as a postdoctoral fellow in immunology in Germany, and in 2001 she joined the Department of Immunology in Denver, Colorado, where she is currently a full Professor with tenure. Dr. Pelanda studies the development and repertoire selection of B cells and her lab has developed a variety of tools to investigate the molecular and biochemical pathways driving the selection of the primary repertoire of mouse and human B cells, and the function B cells play in the context of autoimmunity.