NOVARTIS

Max Warncke, PhD " >

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Autoimmunity, Transplantation and Inflammation

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Apoptosis (programmed cell death) is a physiological process throughout life as part of development, homeostasis, and pathogenic processes. Apoptosis not only ensures a non-phlogistic removal of apoptotic cells, but is an important mechanism to maintain self-tolerance. The process is characterized by the breakdown of intracellular components such as nucleotides, DNA and intracellular proteins, which otherwise would act as “danger signals”. In addition, apoptotic cells change the decoration of their cell membrane to be recognized, engulfed, and cleared by phagocytes. Decoration of apoptotic cell surfaces is not only modulated by cell-intrinsic mechanisms that induce expression of cell surface molecules, but also involves opsonization with antibodies and complement. Defects in this pathway (e.g., complement deficiencies) result in failure of apoptotic cell clearance and severe autoimmune syndromes in humans. In these patients, chronic inflammation may be driven by insufficient/aberrant clearance of apoptotic cells and/or by phenotypic changes of phagocytic immune cells. During chronic inflammation, danger signals from activated immune cells and necrotic cells may override the immune modulatory capacities of apoptotic signals. We are investigating the signals and mechanisms responsible for uptake of apoptotic cells by phagocytes in inflammatory diseases, with the aim of identifying novel therapeutic concepts to restore homeostatic apoptosis and thereby re-establish tolerance to self.

Selected Publications

Selected Publications for Max Warncke

Different adaptations of IgG effector function in human and nonhuman primates and implications for therapeutic antibody treatment
Warncke, M., T. Calzascia, M. Coulot, N. Balke, R. Touil, F. Kolbinger, and C. Heusser.
Journal of immunology 2012. 188: 4405-4411.

Control of the specificity of T cell-mediated anti-idiotype immunity by natural regulatory T cells
Warncke, M., M. Buchner, G. Thaller, A. Dodero, A. Bulashevska, D. Pfeifer, J. Timmer, and H. Veelken.
Cancer immunology, immunotherapy : CII 2011. 60: 49-60.

Murine dendritic cells generated under serum-free conditions have a mature phenotype and efficiently induce primary immune responses
Warncke, M., A. Dodero, H. Dierbach, M. Follo, and H. Veelken.
Journal of immunological methods 2006. 310: 1-11.

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Selected Publications for Max Woisetschläger

A novel low molecular weight inhibitor of dendritic cells and B cells blocks allergic inflammation
Ettmayer, P., P. Mayer, F. Kalthoff, W. Neruda, N. Harrer, G. Hartmann, M. M. Epstein, V. Brinkmann, C. Heusser, and M. Woisetschlager.
American journal of respiratory and critical care medicine 2006. 173: 599-606.

Activation of the aryl hydrocarbon receptor is essential for mediating the anti-inflammatory effects of a novel low-molecular-weight compound
Lawrence, B. P., M. S. Denison, H. Novak, B. A. Vorderstrasse, N. Harrer, W. Neruda, C. Reichel, and M. Woisetschlager.
Blood 2008. 112: 1158-1165.

Modular Antibody Engineering: Antigen binding immunoglobulin Fc CH3 domains as building blocks for bi-specific antibodies (mAb2) Woisetschläger M, Rüker F, Mudde GC, Wozniak-Knopp G, Bauer A and Himmler G.
in: Fusion protein technologies for biopharmaceuticals: Applications and Challenges Ed.: Stefan R. Schmidt, Wiley 2013.

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