

Sugar coated killers - how immunoglobulin glycosylation modifies immunity and autoimmunity

Initiative: Trilaterale Partnerschaften – Kooperationsvorhaben zwischen Wissenschaftler(inne)n aus der Ukraine, Russland und Deutschland

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The current project aims to clarify the relation between glycosylation of cells, immunoglobulins and their effect on the immune response. The mechanism leading to the alteration of immunoglobulin glycosylation and pathogenicity of autoantibodies, abzymes and natural antibodies will be studied. The effect of impaired clearance of dying cells and formation of neutrophil extracellular traps on modification of glycan components and their contribution to the development of pro-inflammatory antibodies and immune complexes will be investigated. The specific input of these processes in development of pathological manifestations in several autoimmune diseases and autoimmune neuropathologies will be addressed. Realization of the project will allow to validate the developed lectin-ELISA test and introduce it for clinical practice for early detection of autoimmune disorders, to find specific ways to prevent accumulation of nuclear antigens in autoimmune disorders and damaging circulating pro-inflammatory antibodies. As a result diagnostic and treatment strategies for autoimmune disorders could lead an advantage and improvement in auto-immune and immune diseases, cancer research, transplantation technologies and infectious diseases.

Projektbeteiligte

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