

NPY and Receptors in Immune and Inflammatory Diseases

Authors: Wheway, Julie¹; Herzog, Herbert¹; Mackay, Fabienne¹

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Abstract:

Growing evidence suggests that neuropeptide Y (NPY) plays an important role in the immune system. NPY is produced by the central and peripheral nervous system but also by immune cells in response to activation. NPY has pleiotropic effects on both the innate and adaptive arms of the immune system, with effects ranging from the modulation of cell migration to macrophage, T helper (Th) cell cytokine release, and antibody production. Subsequent studies have confirmed the importance of this system in immunity in particular via the demonstration that Y1, a receptor for NPY, plays a fundamental role in autoimmunity and inflammation using Y1-deficient animals. Furthermore, clinical studies have suggested a role for NPY in other immune disorders such as asthma and arthritis. This review provides the latest information on the role of NPY and Y1 in the immune system, and discusses the potential new opportunities of this work for the development of a new generation of immuno-modulatory treatments of autoimmune and inflammatory diseases.

Keywords: [Neuropeptide Y](#); [Y receptors](#); [immunity](#); [autoimmunity](#); [inflammation](#); [asthma](#)

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Affiliations: 1: Autoimmune Research Unit, Neuroscience Research Program, Garvan Institute of Medical Research, 384 Victoria St, Darlinghurst, NSW, 2010, Australia.

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