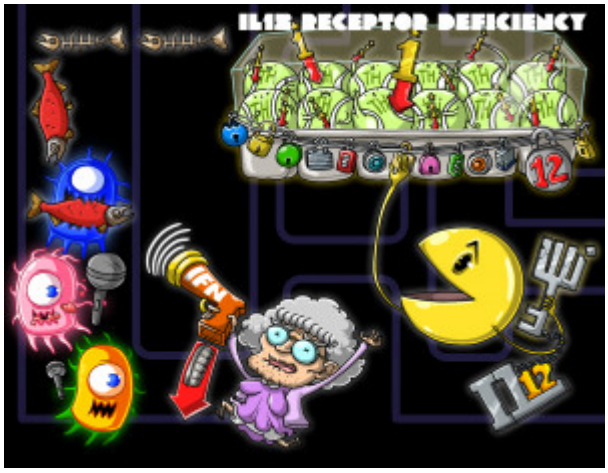
IL-12 Receptor Deficiency

IL12 receptor deficiency is a congenital T-cell immunodeficiency which results in a decreased Th1 response. IL-12 is essential for the differentiation of non-specific T-cells into a Th1 cellular mediated response. Without this activating molecule, the Th1 response is insufficient. The patient is prone to disseminated mycobacterial infections including tuberculosis.



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Pathophysiology

IL-12 Secreted by Macrophages
IL12 Key Held by Mac-man
IL-12 is responsible for the differentiation of T-cells into Th1 cells and is secreted by macrophages in the immune response.

Decreased Th1 Response
Down-arrow trapped Tennis-balls with (1) Wands
IL-12 is responsible for the differentiation of T-cells into Th1 cells. This is an essential piece to the cell mediated response.

Decreased IFN Gamma
Down-arrow Grandma with IFN-ray-gun
IFN-gamma is a key initiator for the Th1 cellular response, which is secreted after activation by IL-12, and mounts a strong response. Due to the limitations with IL-12, the IFN-gamma is in short supply and the immune response is decreased.

Signs and Symptoms

Mycobacterial Infections
Bacteria with Mics
The Th1 response is responsible for cellular immunity, which is particularly essential for the immune response against mycobacterial pathogens.

Salmonella
Salmon
Host defense against salmonella also depends heavily upon the functional integrity of mononuclear phagocytes and their interaction with T-cells.

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