

IL 4 Human, His

Interleukin-4 Human Recombinant, His Tag

CYK0331

Product Overview

Name	IL 4 Human, His
Accession(Primary)	P05112
Description	Interleukin-4 Human Recombinant, His Tag

Target information (P05112)

Gene Name

About Gene Symbol

Background

Recombinant IL-4 (Interleukin-4) is a bioengineered version of a naturally occurring cytokine, which plays a crucial role in the immune system. IL-4 is primarily produced by activated T cells, mast cells, and basophils, and it is involved in the regulation of immune responses, including the differentiation of T helper cells, B cell activation, and the production of immunoglobulins. Recombinant IL-4 is synthesized using recombinant DNA technology, which involves inserting the gene encoding IL-4 into a suitable expression system, such as bacteria, yeast, or mammalian cells. The host cells are then cultured, allowing them to produce the desired protein, which can be purified and used for various applications. One of the main functions of IL-4 is to promote the differentiation of naïve CD4+ T cells into T helper 2 (Th2) cells. Th2 cells are essential for coordinating immune responses against extracellular pathogens, such as parasites and allergens. They achieve this by secreting cytokines, including IL-4 itself, IL-5, and IL-13, which stimulate B cells to produce specific antibodies, eosinophils to combat parasites, and mast cells to release histamine and other inflammatory mediators. Recombinant IL-4 has been extensively studied for its potential therapeutic applications. It has been shown to have anti-inflammatory properties, making it a potential candidate for the treatment of autoimmune and inflammatory

diseases, such as rheumatoid arthritis, multiple sclerosis, and inflammatory bowel disease. Additionally, IL-4 has been found to inhibit the growth of certain cancer cells, suggesting that it may have potential as an anti-cancer agent. However, the use of recombinant IL-4 as a therapeutic agent is not without challenges. One of the main concerns is the potential for adverse effects due to its immunomodulatory properties. For example, excessive IL-4 activity can lead to the development of allergies and asthma, as it promotes the production