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IL 4 Human

Interleukin-4 Human Recombinant
CYK0329

Product Overview

Name	IL 4 Human
Description	
Interleukin-4 Human Recombinant	
Accession (Primary)	P05112
Synonyms	
BCGF, BCDF, B cell stimulating factor, BSF-1, Lymphocyte stimulatory factor 1, IL-4, MGC79402, Binetrakin, Pitrakinra.	
Introduction	
IL4 is a pleiotropic cytokine produced by activated T cells. IL4 is a ligand for interleukin 4 receptor. The interleukin 4 receptor also binds to IL13, which may contribute to many overlapping functions of this cytokine and IL13. STAT6, a signal transducer and activator of transcription, has been shown to play a central role in mediating the immune regulatory signal of this cytokine. This gene, IL3, IL5, IL13, and CSF2 form a cytokine gene cluster on chromosome 5q, with this gene particularly close to IL13. IL4, IL13 and IL5 are found to be regulated coordinately by several long-range regulatory elements in an over 120 kilobase range on the chromosome. Two alternatively spliced transcript variants of this gene encoding distinct isoforms have been reported.	
Source	
HEK.	
Physical Appearance	
Sterile Filtered White lyophilized (freeze-dried) powder.	
Formulation	
The IL-4 was lyophilized from a 0.2 μm filtered protein solution (0.68mg/ml) in 1xPBS.	
Stability	
Lyophilized IL-4 although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution IL4 should be stored at 4°C between 2-7 days and for future use below -18°C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.	
Purity	
Greater than 95% as obsereved by SDS-PAGE.	
Biological Activity	

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The activity was determined by the dose dependent stimulation of the proliferation of human TF-1 cells (human erythroleukemic indicator cell line) and was found to be 0.17ng/ml.

Solubility

It is recommended to reconstitute the lyophilized IL-4 in sterile 1xPBS containing 0.1% endotoxin-free recombinant HSA.

Precautions

IL 4 Human is for research use only and not for use in diagnostic or therapeutic procedures.

Target Information: (P05112)

Background

Everything You Should Know About IL-4 Human Recombinant Interleukin-4 (IL-4) is an important type-2 cytokine with multiple effects on numerous cells and tissues in the body. As such, it's crucial for the immune system's maintenance and function. Recent advancements have led to the development of interleukin-4 (rhIL-4) human recombinant in laboratories. As a result, experts have started studying its potential uses and therapeutic applications. If you're interested in learning more about IL-4 human recombinant, check out the information below! How Does Interleukin-4 (IL-4) Work? Interleukin-4 (IL-4) acts as a signaling molecule, specifically a protein. It communicates with various immune cells by binding to specific receptors on their surface. This process triggers responses against common threats, such as allergens, contaminants, and infections. IL-4 is produced by T helper 2 (Th2) cells (a type of white blood cells), mast cells, eosinophils, and basophils. What Interleukin-4 (IL-4) Does As mentioned, this type-2 cytokine has multiple effects on various cells and tissues, so it fulfills several functions. Below are the most important ones: Th2 cell differentiation: IL-4 promotes the differentiation of T cells, triggering the response of Th2 cells, which fight parasites and regulate allergic responses. B cell activation and antibody production: IL-4 stimulates B cells, helping them proliferate and produce antibodies, particularly immunoglobulin E (IgE), which is involved in allergic reactions. Inflammation reduction: IL-4 can promote inflammation to address threats, such as allergens or parasites, and suppress it when necessary, depending on the context. Tissue repair and remodeling: IL-4 is key for tissue repair and remodeling processes, such as wound healing and fibrosis. What Is IL-4 Human Recombinant? IL-4 human recombinant is a version produced in a laboratory using DNA technology. The cytokine is inserted into a host organism, commonly E. Coli bacteria, for mass production. This method allows experts to obtain pure and contaminant-free rhIL-4 with uniform biological activity and in large quantities. What Can IL-4 Human Recombinant Be Used For? Since this cytokine plays a key role in different processes, it may have multiple therapeutic applications for numerous

diseases. These are the most common: Allergic diseases, such as asthma, rhinitis, and eczema Autoimmune diseases, such as rheumatoid arthritis and multiple sclerosis Infectious diseases, including those caused by parasites and viruses Cancer, as research suggests IL-4 could enhance the immune system's ability to fight cancer cells Final Thoughts The future of IL-4 human recombinant seems promising. This laboratory-produced version of an essential type-2 cytokine may be key to developing innovative therapies. However, more research is needed on potential applications to determine if it's safe and effective.