

General Information

Synonyms	Human IL13; interleukin-13; IL13; IL-13; interleukin 13; MGC116786
Accession #	AAK53823
Source	Human embryonic kidney cell, HEK293-derived human IL-13 protein
	Gly21-Asn132
Predicted Molecular weight	13.3 kDa

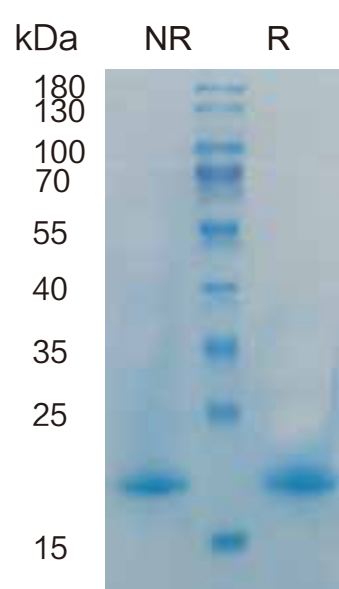
Components and Storage

Formulation	Solution protein. Dissolved in sterile PBS buffer. This solution can be diluted into other aqueous buffers. Centrifuge the vial prior to opening.
Storage and Stability	Avoid repeated freeze-thaw cycles. It is recommended that the protein be aliquoted for optimal storage. 12 months from date of receipt, -20 to -70 ° C as supplied.
Shipping	Shipping with dry ice

Quality

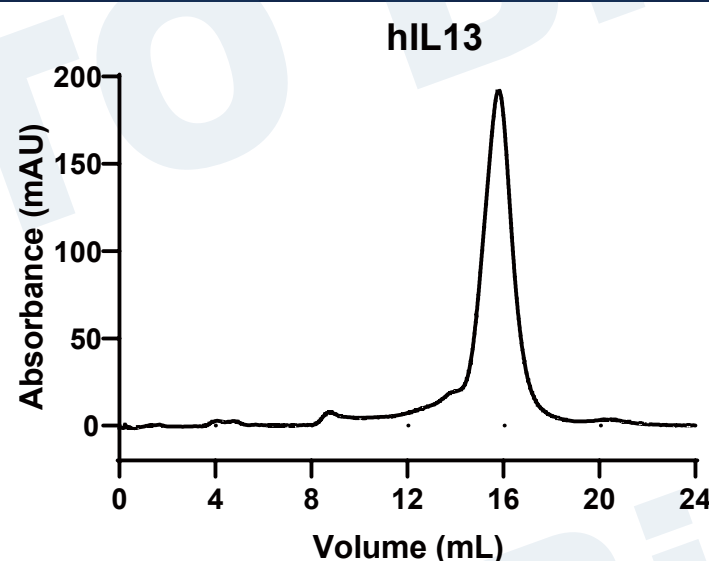
Purity	> 95%, determined by SDS-PAGE.
Endotoxin Level	<0.010 EU per 1 ug of the protein by the LAL method.
Activity	Measured in a cell proliferation assay using TF-1 human erythroleukemic cells. The EC50 for this effect is 0.5-2.0 ng/mL.

SDS-PAGE



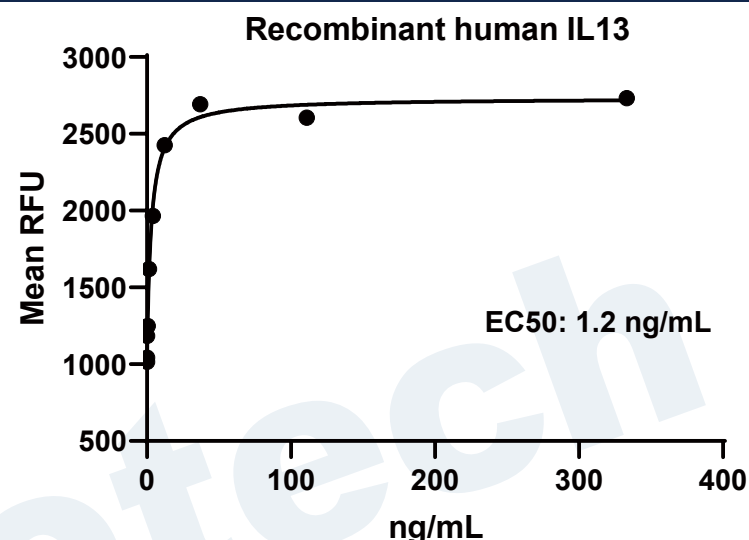
4 ug/lane protein was resolved with SDS-PAGE under non-reducing (NR) and reducing (R) conditions and visualized by Coomassie Blue staining.

Gel filtration



Size-exclusion chromatography of recombinant human IL13 protein (280 nm absorbance)

Bioactivity



Recombinant human IL13 (Catalog # HF-1013) stimulates cell proliferation of the TF-1 human erythroleukemic cells.

Background

Interleukin-13 (IL-13) is a monomeric 17 kDa immunoregulatory cytokine that plays a key role in the pathogenesis of allergy, cancer, and tissue fibrosis. It is secreted by several helper T cell subsets, NK cells, mast cells, eosinophils, basophils, and visceral smooth muscle cells (1-3). Mature human IL-13 shares approximately 58% amino acid sequence identity with mouse and rat IL-13. Despite the low homology, it exhibits cross-species activity between human, mouse, and rat (4). IL-13 suppresses the production of proinflammatory cytokines and other cytotoxic substances by macrophages, fibroblasts, and endothelial cells. On B cells, it promotes cellular activation, immunoglobulin class switching to IgE, and the up-regulation of CD23/Fc epsilon RII (1, 5). IL-13 binds with low affinity to the transmembrane IL-13 R alpha 1 which then forms a signaling complex with the transmembrane IL-4 R alpha (6-8). This high affinity receptor complex also functions as the type 2 IL-4 receptor (6, 7). IL-13 R alpha 2 inhibits responses to both IL-13 and IL-4. It binds IL-13 with high affinity (9, 10) and prevents IL-13 from signaling through the IL-13 R alpha 1/IL-4 R alpha complex (11, 12). It also blocks signaling through IL-4-occupied IL-13 R alpha 1/IL-4 R alpha receptor complexes (12, 13). In addition, IL-13-bound IL-13 R alpha 2 can directly promote tumor cell invasiveness and the development of tissue fibrosis (14-16).

Reference

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