HB220425

Recombinant Rat Interleukin-13 (Rat IL-13)

Product Information

Product Name	Cat#	Size
Recombinant Rat Interleukin-13 (Rat IL-13)	90175ES10	10 μg
	90175ES60	100 μg
	90175ES76	500 μg

Product Description

IL-13 is a immunoregulatory cytokine that plays a key role in the pathogenesis of allergic asthma and atopy. It is secreted by Th1 and Th2 CD4+ T cells, NK cells, visceral smooth muscle cells, eosinophils, mast cells, and basophils. IL-13 circulates as a monomer with two internal disulfide bonds that contribute to a bundled four alpha -helix configuration. Mature rat IL-13 shares 59%, 75%, and 60% amino acid sequence identity with human, mouse, and rhesus IL-13, respectively. Despite the low homology, it exhibits cross-species activity between human, mouse, and rat. IL-13 has diverse activities on numerous cell types. On macrophages, IL-13 suppresses the production of proinflammatory cytokines and other cytotoxic substances. On B cells, IL-13 induces immunoglobulin class switching to IgE, upregulates the expression of MHC class II, CD71, CD72, and CD23, and costimulates proliferation. IL-13 upregulates IL-6 while downregulating IL-1 and TNF-alpha production by fibroblasts and endothelial cells. IL-13 binds with low affinity to IL-13 R alpha 1, triggering IL-13 R alpha 1 association with IL-4 R alpha. This high affinity receptor complex also functions as the type 2 IL-4 receptor complex. Additionally, IL-13 binds with high affinity to IL-13 R alpha 2 which is expressed intracellularly, on the cell surface, and as a soluble molecule. IL-13 R alpha 2 regulates the bioavailability of both IL-13 and IL-4 and is overexpressed in glioma and several bronchial pathologies. Compared to wild type IL-13, the atopy-associated R110Q variant of IL-13 elicits increased responsiveness from eosinophils that express low levels of IL-13 R alpha 2.

Product Properties

Synonyms	T-cell Activation Protein P600
Accession	P42203
GeneID	116553
Source	E.coli-derived Rat IL-13, Pro22-His131, with an N-terminal Met.
Molecular Weight	Approximately 12.2 kDa.
AA Sequence	MPVRRSTSPP VALRELIEEL SNITQDQKTS LCNSSMVWSV DLTAGGFCAA LESLTNISSC NAIHRTQRIL NGLCNQKASD VASSPPDTKI EVAQFISKLL NYSKQLFRYG H
Tag	None
Physical Appearance	Sterile Filtered White lyophilized (freeze-dried) powder.
Purity	> 97% by SDS-PAGE and HPLC analyses.
Biological Activity	The ED50 as determined by a cell proliferation assay using human TF-1 cells is less than 4 ng/ml, corresponding to a specific activity of > 2.5 × 105 IU/mg. Fully biologically active when compared to standard.
Endotoxin	< 1.0 EU per 1μg of the protein by the LAL method.
Formulation	Lyophilized from a 0.2 μm filtered concentrated solution in PBS, pH 7.4.

Reconstitution	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in sterile distilled water or aqueous buffer containing 0.1% BSA to a concentration of 0.1-1.0 mg/mL. Stock solutions should be apportioned into working aliquots and stored at ≤ -20°C. Further dilutions should be made in appropriate buffered solutions.

Shipping and Storage

The products are shipped with ice pack and can be stored at -20℃ to -80℃ for 1 year.

Recommend to aliquot the protein into smaller quantities when first used and avoid repeated freeze-thaw cycles.

Cautions

1. Avoid repeated freeze-thaw cycles.
2. For your safety and health, please wear lab coats and disposable gloves for operation.
3. For research use only!