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Recombinant human IL-17E (Fc tag) Protein

Catalog Number:	632201, 632202
Size:	50 μg, 500 μg
Target Name:	IL-25, IL-17E
Regulatory Status:	RUO

PRODUCT DETAILS

Application:	Bioassay
Format:	Lyophilized from sterile PBS, pH 7.4.
Expression Host:	HEK293
Species:	Human
accession number:	NP_073626.1)
Sources:	A DNA sequence encoding the mature form of human IL25 (Tyr 33-Gly177) (NP_073626.1) was fused with the Fc region of human IgG1 at the N-terminus via a polypeptide linker.
Molecular Weight:	The recombinant human IL25/Fc chimera is a disulfide-linked homodimeric protein. The reduced monomer consists of 425 amino acids and predicts a molecular mass of 47.55 KDa. As a result of glycosylation, the apparent molecular mass of rh IL25/Fc monomer is approximately 50-60 KDa in SDS-PAGE under reducing conditions.
Affinity Tag:	N-hFc
Purity:	> 95 % as determined by SDS-PAGE
Endotoxin level:	< 1.0 EU per µg protein
Protein Concentration:	Lyophilized
Storage and Handling:	Samples are stable for up to twelve months from date of receipt at -20℃ to -80℃. Store it under sterile conditions at -20℃ to -80℃. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.

BACKGROUND INFORMATION

Interleukin-25 (IL-25), also known as IL-17E, is a member of the IL-17 cytokine family that plays a pivotal role in initiating and amplifying type 2 immune responses. Unlike other IL-17 family members that primarily promote neutrophilic inflammation, IL-25 drives the production of Th2-associated cytokines, including IL-4, IL-5, and IL-13. It is produced by epithelial cells, tuft cells, mast cells, eosinophils, basophils, macrophages, and activated T cells in response to allergens, parasites, and tissue injury, thereby contributing to host defense against helminth infections while also promoting allergic inflammation.

Human IL-25 is a secreted glycoprotein consisting of 177 amino acids and adopts the characteristic cystine-knot fold shared by IL-17 family cytokines. IL-25 functions as a homodimer and signals by binding to a heterodimeric receptor complex composed of IL-17RB (IL-25R) and IL-17RA. Receptor engagement activates adaptor proteins such as Act1, leading to NF-κB, MAPK, and JAK/STAT

signaling pathways that stimulate the expression of type 2 inflammatory mediators.

IL-25 has been implicated in numerous inflammatory and immune-mediated diseases, including asthma, allergic rhinitis, atopic dermatitis, chronic rhinosinusitis with nasal polyps, eosinophilic esophagitis, and inflammatory bowel disease. Elevated IL-25 expression contributes to eosinophilic inflammation, mucus hypersecretion, airway remodeling, and enhanced IgE production. In cancer, IL-25 exhibits context-dependent effects, with studies suggesting both anti-tumor immune activation and tumor-promoting activities depending on the tumor type and microenvironment.

Given its central role in type 2 immunity, the IL-25/IL-17RB signaling axis has emerged as a promising therapeutic target. Experimental monoclonal antibodies targeting IL-25 or IL-17RB have demonstrated efficacy in preclinical models of allergic asthma and other eosinophilic disorders. Although no IL-25-targeted therapies have yet received regulatory approval, ongoing research suggests that selective inhibition of IL-25 signaling may provide a novel approach for treating allergic, inflammatory, and fibrotic diseases while complementing existing biologic therapies directed against IL-4, IL-5, IL-13, and TSLP.

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