

Recombinant Human IL-25/IL-17E

Information

Accession #	Q9H293
Alternate Names	Human IL25; interleukin-25; IL25; IL-25; IL17E; IL-17E; interleukin-17E;
Source	Human embryonic kidney cell, HEK293-derived human IL-25 protein
Protein sequence	Tyr33-Gly177
M.Wt	16.7 kDa
Appearance	Solution protein.
Stability & Storage	Avoid repeated freeze-thaw cycles. It is recommended that the protein be aliquoted for optimal storage. 3 years from date of receipt, -20 to -70 °C as supplied.
Concentration	0.2 mg/mL
Formulation	Dissolved in sterile PBS buffer.
Reconstitution	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. This solution can be diluted into other aqueous buffers.
Biological Activity	Measured by its ability to induce CXCL1/GRO alpha secretion in HT-29 human colon adenocarcinoma cells. The EC50 for this effect is 0.2-1.2 ng/mL.
Shipping Condition	Shipping with dry ice.
Handling	Centrifuge the vial prior to opening.
Usage	For Research Use Only! Not to be used in humans.

Quality Control

Purity	> 95%, determined by SDS-PAGE.
Endotoxin	<0.010 EU per 1 ug of the protein by the LAL method.

Description

Interleukin-25 (IL-25), which is also known as IL-17E, promotes Th2-biased immune responses. This is in contrast to other IL-17 family members which promote Th1- and Th17-biased inflammation. IL-25 is an important mediator of allergic reactions and protection against intestinal parasites ^[1, 2]. Mature human IL-25 shares 80% amino acid sequence identity with mouse and rat IL-25 ^[3, 4]. During helminth infections and allergic reactions, IL-25 is locally up-regulated in intestinal and airway epithelial cells, atopic dermatitis skin lesions, and local Th2 cells, eosinophils, and basophils ^[4-9]. It binds to IL-17 RB but also requires IL-17 RA to exert its activity ^[3, 8, 10]. IL-25 acts on a variety of cell types which respond with increased production of Th2 cytokines (e.g. IL-4, IL-5, IL-13) and reduced production of Th1 and Th17 cytokines (e.g. IFN-gamma, IL-12, IL-23, IL-17A,

IL-17F) [4-6, 8, 9, 11-15]. Airway IL-25 can be activated by MMP-7, a protease that is up-regulated in airway epithelium in response to allergen exposure [16]. Cleaved IL-25 shows enhanced binding to IL-17 RB and stronger induction of Th2 cytokines [16]. The Th2 cytokines, in turn, trigger expansion of Th2 memory cells and anti-inflammatory M2 macrophages, increased eosinophil mobilization and activation, and dendritic cell migration [4, 6, 9, 13]. These actions promote protective anti-helminth immune responses [4, 5] as well as allergic inflammation and airway hyperreactivity [11]. The IL-25 induced suppression of Th1 and Th17 cytokines limits Th17 cell expansion and disease pathology in autoimmunity and colitis [12, 14].

Reference

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