Sterile

#12337

Human $_{His6}$Interleukin-25/IL-17E (h_{His6}IL-25)

☐ SC 10 µg (With Carrier)
☐ SF 10 µg (Carrier Free)
☐ LC 50 µg (With Carrier)
☐ LF 50 µg (Carrier Free)

Multi-milligram quantities available

New 09/12

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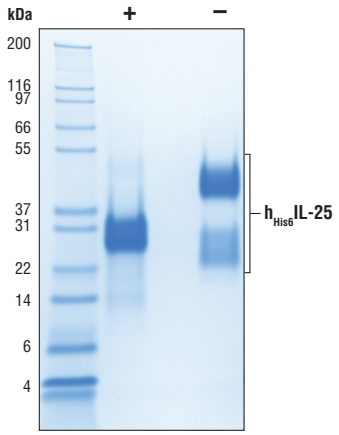
Source: Recombinant human $_{His6}$IL-25 (h_{His6}IL-25) Tyr33-Gly177 (Accession #NP_073626) was expressed in human 293 cells at Cell Signaling Technology.

Molecular Characterization: Recombinant N-terminally His6-tagged hIL-25 has a calculated MW of 19,318. DTT-reduced protein migrates as a 26-32 kDa polypeptide. The nonreduced cystine-linked homodimer migrates as a 40-46 kDa protein. Lower mobility and heterogeneity in SDS-PAGE are due to glycosylation. The expected amino terminus of recombinant h_{His6}IL-25 was verified by amino acid sequencing.

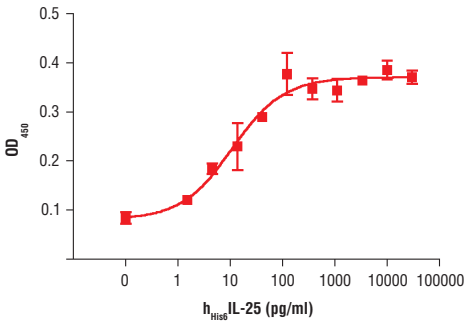
Endotoxin: Less than 0.01 ng endotoxin/1 µg h_{His6}IL-25.

Purity: >97% as determined by SDS-PAGE of 6 µg reduced (+) and nonreduced (-) recombinant h_{His6}IL-25. 30% migrates as monomer under nonreducing (-) conditions. All lots are greater than 97% pure.



The purity of recombinant h_{His6}IL-25 was determined by SDS-PAGE of 6 µg reduced (+) and nonreduced (-) recombinant h_{His6}IL-25 and staining overnight with Coomassie Blue.

Bioactivity: The bioactivity of recombinant h_{His6}IL-25 was determined by its ability to induce IL-5 production from TSLP-primed PBMC in the presence of IL-2. The ED_{50} of each lot is between 5-15 pg/ml.



IIL-5 production from human PBMC costimulated with IL-2 and increasing concentrations of h_{His6}IL-25 was assessed. PBMC were treated with TSLP (100 ng/ml, 24 hr) and then costimulated with IL-2 (10 ng/ml) and increasing concentrations of h_{His6}IL-25. After 72 hr, cell supernatants were harvested and assayed for IL-5 by ELISA and the OD_{450} was determined.

Formulation: With carrier: Lyophilized from a 0.22 µm filtered solution of h_{His6}IL-25 in 20 mM Tris, pH 7.2 containing 150 mM NaCl and 20 µg BSA per 1 µg h_{His6}IL-25.

Carrier free: Lyophilized from a 0.22 µm filtered solution of h_{His6}IL-25 in 20 mM Tris, pH 7.2 containing 150 mM NaCl.

Reconstitution:
With carrier: Add sterile TBS or TBS containing 1% bovine or human serum albumin or 5-10% FBS to a final h_{His6}IL-25 concentration of greater than 50 µg/ml. Solubilize for 30 minutes at room temperature with occasional gentle vortexing.

Carrier free: Add sterile TBS or TBS containing protein to minimize absorption of h_{His6}IL-25 to surfaces. Solubilize for 30 minutes at room temperature with occasional gentle vortexing. Stock h_{His6}IL-25 should be greater than 50 µg/ml.

Storage: Stable in lyophilized state at 4°C for 1 year after receipt. Sterile stock solutions reconstituted with carrier protein are stable at 4°C for 2 months and at -20°C for 6 months. Avoid repeated freeze-thaw cycles.

Maintain sterility. Storage at -20°C should be in a manual defrost freezer.

Applications: Optimal concentration for the desired application should be determined by the user.

Background: IL-25, also known as IL-17E, is a member of the IL-17 superfamily of cytokines. IL-25 is expressed in epithelial cells, CD4+ T cells, mast cells, and eosinophils (1). Many cell types are responsive to IL-25, including T cells, macrophages, and epithelial cells (1). The receptor for IL-25 consists of a heterodimer of IL-17RA and IL-17RB (1,2). IL-25 promotes Th2 type immune responses by induction of IL-5, IL-4, and IL-13 and may contribute to allergic inflammation and asthma (1-3). IL-25 has also been shown in research to promote Th9 cell activation and induces apoptosis in breast cancer cells (4,5).

Background References:

(1) Iwakura, Y. et al. (2011) *Immunity* 34, 149-62.
(2) Rickel, E.A. et al. (2008) *J Immunol* 181, 4299-310.
(3) Petersen, B.C. et al. (2012) *Nat Med* 18, 751-8.
(4) Angkasekwinai, P. et al. (2010) *Nat Immunol* 11, 250-6.
(5) Furuta, S. et al. (2011) *Sci Transl Med* 3, 78ra31.