Recombinant Human IL-17E (carrier-free)

Catalog# / Size	598902 / 5 µg 598904 / 25 µg
Regulatory Status	RUO
Other Names	IL-25
Description	IL-17E, also known as IL-25, promotes Th2 biased immune responses. This is in contrast to other IL-17 family members which promote Th1 and Th17 biased inflammation. IL-17E is an important mediator of allergic reactions and protection against intestinal parasites. During helminth infections and allergic reactions, IL-17E production is locally upregulated in intestinal cells, airway epithelial cells, atopic dermatitis skin lesions, local Th2 cells, eosinophils, and basophils. It binds to IL-17RB but also requires IL-17RA to exert its activity. IL-17E acts on a variety of cell types which respond with increased production of Th2 cytokines and reduced production of Th1 and Th17 cytokines. Airway IL-17E can be activated by MMP7, a protease that is upregulated in airway epithelium in response to allergen exposure. Cleaved IL-17E shows enhanced binding to IL-17RB and stronger induction of Th2 cytokines. The Th2 cytokines, in turn, trigger the expansion of Th2 memory cells and anti-inflammatory M2 macrophages, increased eosinophil mobilization and activation, and dendritic cell migration. These actions promote protective anti-helminth immune responses as well as allergic inflammation and airway hyperreactivity. IL-17E also promotes vascular endothelial cell proliferation and assembly into tubular structures. It also supports the integrity of the blood brain barrier and limits $CD4^+$ T cell infiltration into the brain.

Product Details

Source	Human IL-17E, amino acids (Tyr33-Gly177) with an additional Met at the N-terminus (Accession# NP_073626.1), was expressed in *E. coli*.
Molecular Mass	The 146 amino acid recombinant protein has a predicted molecular mass of approximately 17 kD. Recombinant human IL-17E forms a non-disulfide-linked homodimer (34 kD). The predicted N-terminal amino acid is Met.
Purity	>98%, as determined by Coomassie stained SDS-PAGE.
Formulation	Lyophilized
Endotoxin Level	Less than 0.1 ng per µg of protein.
Storage & Handling	Unopened vial can be stored at -20°C or -70°C. For maximum results, quick spin vial prior to opening. Reconstitute in water to a concentration of 0.1-1.0 mg/ml. Do not vortex. It is recommended to further dilute in a buffer containing a carrier protein such as 0.1% BSA and store working aliquots at -20°C to -80°C. **Avoid repeated freeze/thaw cycles.**
Activity	Human IL-17E is able to induce IL-8 secretion in human PBMCs using a concentration range of 10 - 100 ng/ml. **Note: Results will vary with PBMC donors.**
Application	Bioassay

Antigen Details

Structure	Cytokine
Distribution	T cells, neurons
Function	Human IL-17E plays an important role in inflammatory responses, anti-tumor immunity, airway remodeling, and autoimmune diseases.
Interaction	Fibroblasts, endothelial cells, epithelial cells, keratinocytes, macrophages.
Ligand/Receptor	IL-17RB
Bioactivity	Human IL-17E induces IL-8 secretion in PBMCs.

Biology Area	Apoptosis/Tumor Suppressors/Cell Death, Cell Biology, Immunology, Signal Transduction
Molecular Family	Cytokines/Chemokines
Antigen References	1. Gaffen SL. 2009. *Nat. Rev. Immunol.* 9:556. 2. Cua DJ, and Tato CM. 2010. *Nat. Rev. Immunol.* 10:479. 3. Shi Y, *et al.* 2000. *J. Biol. Chem.* 275:19167. 4. Li H, *et al.* 2000. *Proc. Natl. Acad. Sci. USA* 97:773. 5. Moore EE, *et al.* 2002. *Neuromuscul. Disord.* 12:141. 6. Kokubu T, *et al.* 2008. *J. Histochem. Cytochem.* 56:89. 7. You Z, *et al.* 2005. *Biochem. Biophys. Res. Commun.* 326:624. 8. Yamaguchi Y, *et al.* 2007. *J. Immunol.* 179:7128.
Gene ID	64806

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