

TSLP Protein, Human, Recombinant (His), Biotinylated

General Information

Synonyms:	thymic stromal lymphopoietin
Protein Construction:	A DNA sequence encoding the human TSLP (NP_149024.1) (Met1-Gln159, with mutation Arg 127 Ala, Arg 130 Ser) was expressed with a polyhistidine tag at the C-terminus. The purified protein was biotinylated in vitro. Predicted N terminal: Met 1
Species:	Human
Expression Host:	HEK293 Cells
Accession:	Q969D9-1
Molecular Weight:	16.2 kDa (predicted)

QC Testing

Biological Activity:	1. Immobilized Recombinant Human TSLP Protein (R127A, R130S, His Tag), Biotinylated (Cat#TMPY-05756) at 2 µg/mL (100 µL/well) on Streptavidin precoated (2 µg/mL, 100 µL/well) can bind Recombinant Human CRLF2 Protein (Fc Tag) (Cat#TMPY-05769), the EC50 is 8-30 ng/mL (QC tested). 2. Loaded Recombinant Human CRLF2/TSLPR Protein (hFc Tag) (Cat#TMPY-05769) on proA Biosensor, can bind Biotinylated Recombinant Human TSLP Protein (R127A, R130S, His Tag) (Cat#TMPY-05756) with an affinity constant of 42.000 nM as determined in BLI assay (Sartorius Octet RED384) (Routinely tested).
Purity:	> 95 % as determined by SDS-PAGE.
Endotoxin:	< 1.0 EU/µg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 µm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:	A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.
Stability & Storage:	It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots. <small>Actual storage temperature shall be subject to the COA.</small>
Shipping:	In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Thymic stromal lymphopoietin (TSLP) is an interleukin 7 (IL-7)-like cytokine originally characterized by its ability to promote the activation of B cells and dendritic cells (DCs). Thymic stromal lymphopoietin (TSLP) is a cytokine expressed by epithelial cells, including keratinocytes, and is important in allergic inflammation. Subsequent studies have shown that TSLP promotes T helper type 2 (TH2) cell responses associated with immunity to some helminth parasites and the pathogenesis of many inflammatory diseases, including atopic dermatitis and asthma. TSLP can promote TH2 cytokine-associated inflammation by directly promoting the effector functions of CD4+TH2 cells, basophils and other granulocyte populations while simultaneously limiting the expression of DC-derived proinflammatory cytokines and promoting regulatory T cell responses in peripheral tissues.

Reference

- Comeau MR, et al. (2010) The influence of TSLP on the allergic response. *Mucosal Immunol.* 3 (2): 138-47.
- Liu YJ, et al. (2007) TSLP: An Epithelial Cell Cytokine that Regulates T Cell Differentiation by Conditioning Dendritic Cell Maturation. *Annual Review of Immunology.* 25: 193-219.
- Ziegler SF. (2010) The role of thymic stromal lymphopoietin (TSLP) in allergic disorders. *Curr Opin Immunol.* 22 (6): 795-9.
- He R, et al. (2008) TSLP acts on infiltrating effector T cells to drive allergic skin inflammation. *PNAS.* 105 (33): 11875-80.

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