

Thymic Stromal Lymphopoietin, human recombinant (rHuTSLP)

Catalog No: 97213
Lot No: XXXXX
Source: *E. coli*
Synonyms: Thymic Stromal Lymphopoietin, TSLP

Background

TSLP protein is a hemopoietic cytokine which signals throughout a heterodimeric receptor complex composed of the thymic stromal lymphopoietin receptor & the Interleukin-7 receptor alpha chain. TSLP impacts myeloid cells thus induces the discharge of T cell-attracting chemokines from monocytes & increases the growth of CD11c(+) dendritic cells. TSLP is mainly expressed in the heart, liver and prostate. TSLP is related in its biological activities with IL-7 and binds with the heterodimeric receptor complex consisting of the Interleukin-7 receptor alpha chain & the TSLPR. Similar to IL-7, TSLP enhances phosphorylation of STAT3 and STAT5, though uses kinases excluding JAKs for its activation. TSLP induces the release of T cell-attracting chemokines such as TARC & MDC from monocytes & triggers CD11c(+) dendritic cells. TSLP activated dendritic cells primes naive T cells to manufacture pro-allergic cytokines such as Interleukin-4, Interleukin-5, Interleukin-13 and TNF-alpha whereas down-regulating Interleukin-10 and IFN-gamma play a role in the initiation of allergic inflammation.

Description

TSLP human recombinant produced in *E. coli* is a single, non-glycosylated polypeptide chain containing 132 amino acids and having a molecular mass of 15 kDa. TSLP is purified by proprietary chromatographic techniques.

Physical Appearance

Sterile filtered white lyophilized (freeze-dried) powder.

Formulation

Lyophilized from a concentrated solution (1 mg/ml) contains 130 mM NaCl, and 20 mM sodium phosphate, pH 7.4.

Solubility

It is recommended to reconstitute the lyophilized TSLP in sterile 18 MΩ-cm H₂O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability

Lyophilized TSLP, although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution TSLP should be stored at 4°C between 2-7 days and for future use below -18°C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.

Purity

Greater than 97.0% as determined by (a) Analysis by RP-HPLC, (b) Analysis by SDS-PAGE.

Amino Acid Sequence

MYDFTNCD FE KIKAA YLSTI SKDLITYMSG TKSTEFNNTV SCSNRPHCLT EIQSLTFNPT AGCASLAKEM FAMKTKAALA
IWC PGYSETQ INATQAMKKR RKRKVTTNKC LEQVSQLQGL WRRFNRPLLK QQ

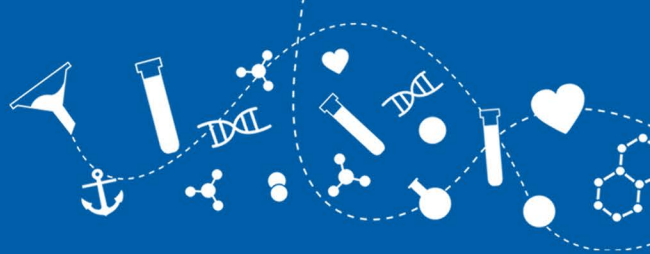
Activity

The ED₅₀ is determined by the ability to induce proliferation of human Interleukin-7 receptor alpha and human TSLP Receptor co-transfected with mouse BaF3 cells which was found to be less than 0.3 ng/ml.

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