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## Lieferung & Zahlungsart

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SANTA CRUZ BIOTECHNOLOGY, INC.

# TSLP siRNA (h): sc-45234

## BACKGROUND

Thymic stromal lymphopoietin (TSLP) is a novel member of the hemopoietic cytokine family that promotes the development of B cells and shares overlapping activity with IL-7. The gene encoding murine TSLP maps to chromosome 18 and its human homolog is expressed in several tissues, including heart, liver and prostate. TSLP mediates its function by binding to a receptor complex. TSLP first binds with low affinity to a TSLP-specific chain designated TSLPR, and then forms a high affinity complex with the IL-7Rα subunit, which explains the overlapping biological properties between TSLP and IL-7. Both TSLP and IL-7 induce phosphorylation of the transcription factor Stat5, but unlike IL-7, TSLP-mediated signaling does not activate the JAKs. TSLP prevents apoptosis and stimulates the proliferation of myeloid cells, which is supported by the coexpression of TSLPR and IL-7Rα on monocytes and dendritic cells.

## REFERENCES


1. Levin, S.D., et al. 1999. Thymic stromal lymphopoietin: a cytokine that promotes the development of IgM+ B cells *in vitro* and signals via a novel mechanism. J. Immunol. 162: 677-683.
2. Isaksen, D.E., et al. 1999. Requirement for Stat5 in thymic stromal lymphopoietin-mediated signal transduction. J. Immunol. 163: 5971-5977.
3. Park, L.S., et al. 2000. Cloning of the murine thymic stromal lymphopoietin (TSLP) receptor: formation of a functional heteromeric complex requires interleukin 7 receptor. J. Exp. Med. 192: 659-670.
4. Sims, J.E., et al. 2000. Molecular cloning and biological characterization of a novel murine lymphoid growth factor. J. Exp. Med. 192: 671-680.
5. Pandey, A., et al. 2000. Cloning of a receptor subunit required for signaling by thymic stromal lymphopoietin. Nat. Immunol. 1: 59-64.
6. Reche, P.A., et al. 2001. Human thymic stromal lymphopoietin preferentially stimulates myeloid cells. J. Immunol. 167: 336-343.
7. Quentmeier, H., et al. 2001. Cloning of human thymic stromal lymphopoietin (TSLP) and signaling mechanisms leading to proliferation. Leukemia 15: 1286-1292.


## CHROMOSOMAL LOCATION

Genetic locus: TSLP (human) mapping to 5q22.1.

## PRODUCT

TSLP siRNA (h) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see TSLP shRNA Plasmid (h): sc-45234-SH and TSLP shRNA (h) Lentiviral Particles: sc-45234-V as alternate gene silencing products.

For independent verification of TSLP (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-45234A, sc-45234B and sc-45234C.

## STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

TSLP siRNA (h) is recommended for the inhibition of TSLP expression in human cells.

## SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor TSLP gene expression knockdown using RT-PCR Primer: TSLP (h)-PR: sc-45234-PR (20 µl, 436 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.