

Tryptase γ siRNA (m): sc-154708

BACKGROUND

Tryptases comprise a family of trypsin-like serine proteases that are enzymatically active as heparin-stabilized tetramers. There are four functional genes for tryptase: α I, β I, β II and γ I, which tend to cluster on chromosome 16p13.3. Tryptase γ , also known as TPSG1, PRSS31, serine protease 31 or TMT (transmembrane tryptase), is a 321 amino acid single-pass membrane protein. Belonging to the peptidase S1 family and Tryptase subfamily, Tryptase γ is composed of two alleles: γ -I and γ -II, and contains one peptidase S1 domain. Widely expressed, Tryptase γ is stored in secretory granules and is released upon mast cell activation.

REFERENCES

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2. Caughey, G.H., Raymond, W.W., Blount, J.L., Hau, L.W., Pallaoro, M., Wolters, P.J. and Verghese, G.M. 2000. Characterization of human γ -tryptases, novel members of the chromosome 16p mast cell tryptase and prostatic gene families. *J. Immunol.* 164: 6566-6575.
3. Wong, G.W., Foster, P.S., Yasuda, S., Qi, J.C., Mahalingam, S., Mellor, E.A., Katsoulotos, G., Li, L., Boyce, J.A., Krilis, S.A. and Stevens, R.L. 2002. Biochemical and functional characterization of human transmembrane tryptase (TMT)/Tryptase γ . TMT is an exocytosed mast cell protease that induces airway hyperresponsiveness *in vivo* via an interleukin-13/interleukin-4 receptor α /signal transducer and activator of transcription (STAT) 6-dependent pathway. *J. Biol. Chem.* 277: 41906-41915.
4. Caughey, G.H. 2002. New developments in the genetics and activation of mast cell proteases. *Mol. Immunol.* 38: 1353-1357.
5. Xiang, M., Gu, Y., Zhao, F., Lu, H., Chen, S. and Yin, L. 2010. Mast cell tryptase promotes breast cancer migration and invasion. *Oncol. Rep.* 23: 615-619.

CHROMOSOMAL LOCATION

Genetic locus: Tpsg1 (mouse) mapping to 17 A3.3.

PRODUCT

Tryptase γ siRNA (m) is a target-specific 19-25 nt siRNA designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Tryptase γ shRNA Plasmid (m): sc-154708-SH and Tryptase γ shRNA (m) Lentiviral Particles: sc-154708-V as alternate gene silencing products.

PROTOCOLS

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

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

Tryptase γ siRNA (m) is recommended for the inhibition of Tryptase γ expression in mouse 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 μ M in 66 μ l. 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 Tryptase γ gene expression knockdown using RT-PCR Primer: Tryptase γ (m)-PR: sc-154708-PR (20 μ l). 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.