SANTA CRUZ BIOTECHNOLOGY, INC.

# Mast Cell Protease 5 siRNA (m): sc-149284

## BACKGROUND

Mast cells are connective tissue cells derived from blood-forming tissues that line arterial walls and secrete substances which mediate inflammatory and immune responses. Mast cell tryptases are major elements of mast cell granules with a variety of forms and functions. Mast cell proteases are a family of rodent protein homologs to human tryptases that are specifically expressed in mast cell secretory granules and may serve as highly specific markers in the analysis of mast cell heterogeneity, differentiation and function. Mast Cell Protease 5, also known as Mcpt5, Chymase or Cma1, is a 247 amino acid secreted protein that is expressed primarily in mast cells. Belonging to the peptidase S1 family and Granzyme subfamily, Mast Cell Protease 5 contains one peptidase S1 domain. Mast Cell Protease 5 may play a role in vasoactive peptide generation, extracellular matrix degradation and regulation of gland secretion.

## REFERENCES


1. Reynolds, D.S., et al. 1990. Different mouse mast cell populations express various combinations of at least six distinct mast cell serine proteases. Proc. Natl. Acad. Sci. USA 87: 3230-3234.
2. McNeil, H.P., et al. 1991. Molecular cloning of the mouse mast cell protease-5 gene. A novel secretory granule protease expressed early in the differentiation of serosal mast cells. J. Biol. Chem. 266: 20316-20322.
3. Chu, W., et al. 1992. Molecular cloning and characterization of mouse mast cell chymases. Biochim. Biophys. Acta 1121: 83-87.
4. McNeil, H.P., et al. 1992. Translation and granule localization of mouse mast cell protease-5. Immunodetection with specific antipeptide Ig. J. Immunol. 149: 2466-2472.
5. Lunderius, C. and Hellman, L. 2001. Characterization of the gene encoding mouse mast cell protease 8 (mMCP-8), and a comparative analysis of hematopoietic serine protease genes. Immunogenetics 53: 225-232.
6. Groschwitz, K.R., et al. 2013. Chymase-mediated intestinal epithelial permeability is regulated by a protease-activating receptor/matrix metalloproteinase-2-dependent mechanism. Am. J. Physiol. Gastrointest. Liver Physiol. 304: G479-G489.


## CHROMOSOMAL LOCATION

Genetic locus: Cma1 (mouse) mapping to 14 C3.

## PRODUCT

Mast Cell Protease 5 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Mast Cell Protease 5 shRNA Plasmid (m): sc-149284-SH and Mast Cell Protease 5 shRNA (m) Lentiviral Particles: sc-149284-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 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

Mast Cell Protease 5 siRNA (m) is recommended for the inhibition of Mast Cell Protease 5 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 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 Mast Cell Protease 5 gene expression knockdown using RT-PCR Primer: Mast Cell Protease 5 (m)-PR: sc-149284-PR (20 µl, 443 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.