

Mast Cell Protease 5 (M-13): sc-324929

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.

SOURCE

Mast Cell Protease 5 (M-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Mast Cell Protease 5 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-324929 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Mast Cell Protease 5 (M-13) is recommended for detection of Mast Cell Protease 5 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with other mast cell proteases.

Suitable for use as control antibody for Mast Cell Protease 5 siRNA (m): sc-149284, Mast Cell Protease 5 shRNA Plasmid (m): sc-149284-SH and Mast Cell Protease 5 shRNA (m) Lentiviral Particles: sc-149284-V.

Molecular Weight of Mast Cell Protease 5: 28 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

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

PROTOCOLS

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