

Mast Cell Chymase (SPM195): sc-56425

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 Chymase, also known as CMA1 or MCT1, is a major secreted serine protease that is involved in vasoactive peptide generation, extracellular matrix degradation and regulation of gland secretion. The human chymase gene, which maps to human chromosome 14q12, encodes a preproenzyme with a 19 amino acid signal peptide, an acidic 2 amino acid propeptide and a 226 amino acid catalytic domain. Mast Cell Chymase is a chymotryptic serine proteinase which is a member of the peptidase family S1. Expressed in mast cells, Mast Cell Chymase is associated with the degradation of the extracellular matrix, the regulation of submucosal gland secretion, and the generation of vasoactive peptides. Mast cell proteases are a family of rodent protein homologs to human tryptases that are specifically expressed in mast cells and may serve as highly specific markers in the analysis of mast cell heterogeneity, differentiation and function. Mast Cell Protease 1, also designated Mcp-1 or Mcpt1, is a rodent specific beta-chymase. The mouse and rat Mast Cell Protease 1 proteins share 76% sequence identity at the amino acid level.

REFERENCES

- Huang, R.Y., et al. 1991. Cloning and structural analysis of MMCP-1, MMCP-4 and MMCP-5, three mouse mast cell-specific serine proteases. *Eur. J. Immunol.* 21: 1611-1621.
- Caughey, G.H., et al. 1991. Structure, chromosomal assignment, and deduced amino acid sequence of a human gene for mast cell chymase. *J. Biol. Chem.* 266: 12956-12963.
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- Gurish, M.F. and Austen, K.F. 2001. The diverse roles of mast cells. *J. Exp. Med.* 194: 1-5.
- Online Mendelian Inheritance in Man, OMIM™. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 118938. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- LocusLink Report (LocusID: 7176). <http://www.ncbi.nlm.nih.gov/LocusLink/>

CHROMOSOMAL LOCATION

Genetic locus: CMA1 (human) mapping to 14q12; Mcpt1 (mouse) mapping to 14 C3.

SOURCE

Mast Cell Chymase (SPM195) is a mouse monoclonal antibody raised against purified skin chymase of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Mast Cell Chymase (SPM195) is recommended for detection of Mast Cell Chymase distributed in skin, synovium, lung and heart of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Mast Cell Chymase (SPM195) is also recommended for detection of Mast Cell Chymase distributed in skin, synovium, lung and heart in additional species, including porcine and canine.

Suitable for use as control antibody for Mast Cell Tryptase siRNA (h): sc-43910, Mast Cell Tryptase siRNA (m): sc-44922, Mast Cell Tryptase shRNA Plasmid (h): sc-43910-SH, Mast Cell Tryptase shRNA Plasmid (m): sc-44922-SH, Mast Cell Tryptase shRNA (h) Lentiviral Particles: sc-43910-V and Mast Cell Tryptase shRNA (m) Lentiviral Particles: sc-44922-V.

Molecular Weight of Mast Cell Chymase: 30 kDa.

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 for detailed protocols and support products.