

MC-CPA (G-15): sc-49443

BACKGROUND

Carboxypeptidase A (CPA) is a pancreatic exopeptidase which hydrolyses the peptide bond adjacent to the C-terminal end in polypeptide chains. Mast cell carboxypeptidase A (MC-CPA), a part of the peptidase M14 family, is a highly conserved metalloprotease localized to the secretory granules, along with tryptases and chymases. MC-CPA is stored as an active enzyme in the granule and is released, along with other inflammatory mediators, upon mast cell degranulation. MC-CPA mirrors pancreatic carboxypeptidase A in cleaving COOH-terminal aromatic and aliphatic amino acid residues. The optimum pH of MC-CPA is between neutral and basic, depending upon the substrate. The MC-CPA gene, CPA3, resides on chromosome 3q24 and contains 11 exons.

REFERENCES

1. Reynolds, D.S., et al. 1992. Cloning and characterization of the novel gene for MC-CPA. *J. Clin. Invest.* 89: 273-282.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 114851. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
3. Henningson, F., et al. 2003. Mast cell cathepsins C and S control levels of carboxypeptidase A and the chymase, mouse mast cell protease 5. *Biol. Chem.* 384: 1527-1531.
4. Welker, P., et al. 2004. Differential expression of mast cell characteristics in human myeloid cell lines. *Exp. Dermatol.* 13: 535-542.
5. Lundequist, A., et al. 2004. Cooperation between MC-CPA and the chymase mouse mast cell protease 4 in the formation and degradation of Angiotensin II. *J. Biol. Chem.* 279: 32339-32344.
6. Schwartz, L.B. 2005. Analysis of MC(T) and MC(TC) mast cells in tissue. *Methods Mol. Biol.* 315: 53-62.
7. Feyerabend, T.B., et al. 2005. Loss of histochemical identity in mast cells lacking carboxypeptidase A. *Mol. Cell. Biol.* 25: 6199-6210.
8. Henningson, F., et al. 2005. A role for cathepsin E in the processing of mast-cell carboxypeptidase A. *J. Cell Sci.* 118: 2035-2042.
9. Jamur, M.C., et al. 2005. Identification and characterization of undifferentiated mast cells in mouse bone marrow. *Blood* 105: 4282-4289.

CHROMOSOMAL LOCATION

Genetic locus: CPA3 (human) mapping to 3q24; Cpa3 (mouse) mapping to 3A2.

SOURCE

MC-CPA (G-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of MC-CPA of human 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-49443 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

MC-CPA (G-15) is recommended for detection of MC-CPA (Mast cell carboxypeptidase A precursor) of mouse, rat and human 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).

MC-CPA (G-15) is also recommended for detection of MC-CPA (Mast cell carboxypeptidase A precursor) in additional species, including equine, canine and bovine.

Suitable for use as control antibody for MC-CPA siRNA (h): sc-60994, MC-CPA siRNA (m): sc-60995, MC-CPA shRNA Plasmid (h): sc-60994-SH, MC-CPA shRNA Plasmid (m): sc-60995-SH, MC-CPA shRNA (h) Lentiviral Particles: sc-60994-V and MC-CPA shRNA (m) Lentiviral Particles: sc-60995-V.

Molecular Weight of MC-CPA: 50 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.