



CPM (P-15): sc-74383

BACKGROUND

Carboxypeptidase M (CPM) is a 443 amino acid protein belonging to the metallo-carboxypeptidase (metallo-CP) family. Localized to the cell membrane, CPM contains hydrophobic regions in the N and C-termini and has six potential asparagine-linked glycosylation sites. Functionally, CPM specifically removes C-terminal basic amino acids (Arginine or lysine) from proteins and polypeptides and is believed to play a role in monocyte to macrophage differentiation. CPM is also thought to play an important role in the control of peptide hormone and growth factor activity at the cell surface, as well as in the membrane-localized degradation of extracellular proteins. Three isoforms of this protein exist as a result of alternative splicing events.

REFERENCES

1. Rehli, M., et al. 1995. Carboxypeptidase M is identical to the MAX.1 antigen and its expression is associated with monocyte to macrophage differentiation. *J. Biol. Chem.* 270: 15644-15649.
2. Krause, S.W., et al. 1998. Carboxypeptidase M as a marker of macrophage maturation. *Immunol. Rev.* 161: 119-127.
3. Rehli, M., et al. 2000. The membrane-bound ectopeptidase CPM as a marker of macrophage maturation *in vitro* and *in vivo*. *Adv. Exp. Med. Biol.* 477: 205-216.
4. Reverter, D., et al. 2004. Crystal structure of human carboxypeptidase M, a membrane-bound enzyme that regulates peptide hormone activity. *J. Mol. Biol.* 338: 257-269.
5. Skidgel, R.A., et al. 2006. Kinin- and angiotensin-converting enzyme (ACE) inhibitor-mediated nitric oxide production in endothelial cells. *Biol. Chem.* 387: 159-165.
6. Deiteren, K., et al. 2007. The role of the S1 binding site of carboxypeptidase M in substrate specificity and turn-over. *Biochim. Biophys. Acta* 1774: 267-277.
7. Schremmer-Danninger, E., et al. 2007. Kinin receptors in stimulated and characterized decidua tissue-derived cells. *Int. Immunopharmacol.* 7: 103-112.
8. Fujiwara, H. 2007. Membrane-bound peptidases regulate human extravillous trophoblast invasion. *Placenta* 28 Suppl. A: S70-S75.
9. Fujiwara, N., et al. 2007. Monoclonal antibody 7F9 recognizes rat protein homologous to human carboxypeptidase-M in developing and adult rat lung. *Respirology* 12: 54-62.

CHROMOSOMAL LOCATION

Genetic locus: CPM (human) mapping to 12q15; Cpm (mouse) mapping to 10 D2.

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.

SOURCE

CPM (P-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of CPM 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-74383 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

CPM (P-15) is recommended for detection of CPM 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).

Suitable for use as control antibody for CPM siRNA (h): sc-72986, CPM siRNA (m): sc-72987, CPM shRNA Plasmid (h): sc-72986-SH, CPM shRNA Plasmid (m): sc-72987-SH, CPM shRNA (h) Lentiviral Particles: sc-72986-V and CPM shRNA (m) Lentiviral Particles: sc-72987-V.

Molecular Weight of CPM: 51 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.

PROTOCOLS

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