

# CPXM (I-14): sc-85501

## BACKGROUND

Members of the M14 metalloproteinase family serve many diverse functions and are divided into three subfamilies based on structure, function and amino acid sequence similarity. Belonging to the N/E subfamily, CPXM (metalloproteinase CPX-1) is a 734 amino acid protein that contains a F5/8 type C domain and likely binds one zinc ion per subunit. Most members of the N/E subfamily contain several domains, including an active carboxypeptidase domain and signal peptide, and are thought to function mostly in protein-protein interactions and/or protein-membrane interactions, thereby targeting the protein to specific locations within the secretory pathway. CPXM is a unique member of this subfamily in that it does not appear to exhibit any enzymatic activity due to lack of several active-site residues that are present in the catalytic domain of other members of the N/E subfamily. Studies showing that CPXM expression is regulated during osteoclastogenesis suggest that CPXM may play a role in osteoclast differentiation. There are two isoforms of CPXM which are a result of alternative splicing events.

## REFERENCES

1. Lei, Y., et al. 1999. Identification of mouse CPX-1, a novel member of the metalloproteinase gene family with highest similarity to CPX-2. *DNA Cell Biol.* 18: 175-185.
2. Reznik, S.E. and Fricker, L.D. 2001. Carboxypeptidases from A to Z: implications in embryonic development and Wnt binding. *Cell. Mol. Life Sci.* 58: 1790-1804.
3. Wei, S., et al. 2002. Identification and characterization of three members of the human metalloproteinase gene family. *J. Biol. Chem.* 277: 14954-14964.
4. Hillman, R.T., et al. 2004. An unappreciated role for RNA surveillance. *Genome Biol.* 5: R8.
5. Chang, E.J., et al. 2004. Elucidation of CPX-1 involvement in RANKL-induced osteoclastogenesis by a proteomics approach. *FEBS Lett.* 564: 166-170.
6. Pallarès, I., et al. 2005. Structure of human carboxypeptidase A4 with its endogenous protein inhibitor, latexin. *Proc. Natl. Acad. Sci. USA* 102: 3978-3983.
7. Rodriguez de la Vega, M., et al. 2007. Nna1-like proteins are active metalloproteinases of a new and diverse M14 subfamily. *FASEB J.* 21: 851-865.

## CHROMOSOMAL LOCATION

Genetic locus: CPXM1 (human) mapping to 20p13; Cpxm1 (mouse) mapping to 2 F1.

## SOURCE

CPXM (I-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of CPXM of human origin.

## RESEARCH USE

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

## 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-85501 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

CPXM (I-14) is recommended for detection of CPXM 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).

CPXM (I-14) is also recommended for detection of CPXM in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for CPXM siRNA (h): sc-72994, CPXM siRNA (m): sc-142553, CPXM shRNA Plasmid (h): sc-72994-SH, CPXM shRNA Plasmid (m): sc-142553-SH, CPXM shRNA (h) Lentiviral Particles: sc-72994-V and CPXM shRNA (m) Lentiviral Particles: sc-142553-V.

Molecular Weight of CPXM: 79 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.