

# CPZ (S-12): sc-138218

## BACKGROUND

Carboxypeptidases function as proteases and cleave single amino acids from the C-terminus of peptides or proteins. There are three main groups of carboxypeptidases, namely serine-, cysteine- and metallo-enzymes. CPZ (carboxypeptidase Z) is a 652 amino acid secreted protein of the extracellular matrix that cleaves substrates with C-terminal arginine residues. A member of the metallo-carboxypeptidase family, CPZ contains one FZ (frizzled) domain, a Cys-rich domain that shares similarity with Wnt-binding proteins, and is thought to selectively process extracellular proteins. Widely expressed, CPZ is broadly distributed in early embryogenesis, with high levels of expression in invasive trophoblasts of placenta, as well as pituitary gland and amnion cells. CPZ exists as two alternatively spliced isoforms that are encoded by a gene located on human chromosome 4.

## REFERENCES

1. Song, L., et al. 1997. Cloning and expression of human carboxypeptidase Z, a novel metallo-carboxypeptidase. *J. Biol. Chem.* 272: 10543-10550.
2. Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 1998. Johns Hopkins University, Baltimore, MD. MIM Number: 603105. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
3. Novikova, E.G., et al. 1999. Purification and characterization of human metallo-carboxypeptidase Z. *Biochem. Biophys. Res. Commun.* 256: 564-568.
4. Novikova, E.G., et al. 2000. Carboxypeptidase Z is present in the regulated secretory pathway and extracellular matrix in cultured cells and in human tissues. *J. Biol. Chem.* 275: 4865-4870.
5. Reznik, S.E., et al. 2001. Carboxypeptidases from A to Z: implications in embryonic development and Wnt binding. *Cell. Mol. Life Sci.* 58: 1790-1804.
6. Fan, X., et al. 2002. Immunohistochemical localization of carboxypeptidases D, E, and Z in pituitary adenomas and normal human pituitary. *J. Histochem. Cytochem.* 50: 1509-1516.

## CHROMOSOMAL LOCATION

Genetic locus: CPZ (human) mapping to 4p16.1; Cpz (mouse) mapping to 5 B3.

## SOURCE

CPZ (S-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of CPZ 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-138218 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## APPLICATIONS

CPZ (S-12) is recommended for detection of CPZ 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 CPZ siRNA (h): sc-89218, CPZ siRNA (m): sc-142555, CPZ shRNA Plasmid (h): sc-89218-SH, CPZ shRNA Plasmid (m): sc-142555-SH, CPZ shRNA (h) Lentiviral Particles: sc-89218-V and CPZ shRNA (m) Lentiviral Particles: sc-142555-V.

Molecular Weight of CPZ isoforms: 74/73 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<sup>™</sup> compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker<sup>™</sup> 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<sup>™</sup> Mounting Medium: sc-24941.

## RESEARCH USE

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

## PROTOCOLS

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