

# CPE (35): sc-136252

## BACKGROUND

Carboxypeptidase N (arginine carboxypeptidase or CPN) cleaves basic amino acid residues from the C-terminus of peptides and proteins. The enzyme plays a central role in regulating the biologic activity of peptides such as kinins and anaphylatoxins, and therefore is also known as kininase-1 and anaphylatoxin inactivator. CPN is a tetrameric complex consisting of two identical regulatory subunits (CPN reg) and two identical catalytic subunits (CPN cat). CPN reg is a member of the leucine-rich repeat family of proteins and CPN cat is a member of the regulatory B-type carboxypeptidase group. Carboxypeptidase E (CPE) is important for removing any remaining C-terminal Arg or Lys after initial endoprotease cleavage during prohormone processing. CPE is also crucial in proinsulin processing, and required for normal-sized photoreceptor synaptic terminal and normal signal transmission to the inner retina.

## REFERENCES

- Zhu, X., Wu, K., Rife, L., Cawley, N.X., Brown, B., Adams, T., Teofilo, K., Lillo, C., Williams, D.S., Loh, Y.P. and Craft, C.M. 2005. Carboxypeptidase E is required for normal synaptic transmission from photoreceptors to the inner retina. *J. Neurochem.* 95: 1351-1362.
- Hosaka, M., Watanabe, T., Sakai, Y., Kato, T. and Takeuchi, T. 2005. Interaction between secretogranin III and carboxypeptidase E facilitates prohormone sorting within secretory granules. *J. Cell Sci.* 118: 4785-4795.
- Johnston, R.A., Theman, T.A. and Shore, S.A. 2005. Augmented responses to ozone in obese carboxypeptidase E deficient mice. *Am. J. Physiol. Regul. Integr. Comp. Physiol.* 290: R126-R133.
- Marzban, L., Soukhatcheva, G. and Verchere, C.B. 2005. Role of carboxypeptidase E in processing of pro-islet amyloid polypeptide in  $\beta$  cells. *Endocrinology* 146: 1808-1817.
- Lou, H., Kim, S.K., Zaitsev, E., Snell, C.R., Lu, B. and Loh, Y.P. 2005. Sorting and activity-dependent secretion of BDNF require interaction of a specific motif with the sorting receptor carboxypeptidase E. *Neuron* 45: 245-255.

## CHROMOSOMAL LOCATION

Genetic locus: CPE (human) mapping to 4q32.3; Cpe (mouse) mapping to 8 B3.1.

## SOURCE

CPE (35) is a mouse monoclonal antibody raised against amino acids 49-200 of CPE of human origin.

## PRODUCT

Each vial contains 50  $\mu$ g IgG<sub>1</sub> in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

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

## APPLICATIONS

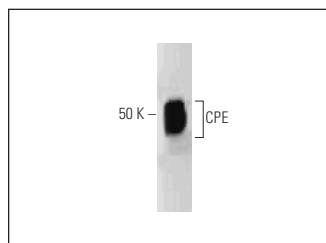
CPE (35) is recommended for detection of CPE of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for CPE siRNA (h): sc-45378, CPE siRNA (m): sc-45379, CPE shRNA Plasmid (h): sc-45378-SH, CPE shRNA Plasmid (m): sc-45379-SH, CPE shRNA (h) Lentiviral Particles: sc-45378-V and CPE shRNA (m) Lentiviral Particles: sc-45379-V.

Molecular Weight of CPE: 60 kDa.

Positive Controls: PC-12 cell lysate: sc-2250 or rat brain extract: sc-2392.

## DATA



CPE (35): sc-136252. Western blot analysis of CPE expression in rat brain tissue extract.

## SELECT PRODUCT CITATIONS

- Majumder, M., et al. 2012. Co-expression of  $\alpha$ 9 $\beta$ 1 Integrin and VEGF-D confers lymphatic metastatic ability to a human breast cancer cell line MDA-MB-468LN. *PLoS ONE* 7: e35094.
- Makani, V., et al. 2013. Annexin A1 complex mediates oxytocin vesicle transport. *J. Neuroendocrinol.* 25: 1241-1254.

## RESEARCH USE

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

## PROTOCOLS

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