

PCPE-1 (7A11/1): sc-73001

BACKGROUND

Fibrillar collagen proteins are synthesized as procollagens that contain carboxyl- and amino-terminal peptide extensions (C- and N-propeptides). As procollagen is secreted from cells, these propeptides are cleaved and form mature helical fibrils. Procollagen C-endopeptidase enhancer-1 precursor (PCPE-1), also designated Type I procollagen COOH-terminal proteinase enhancer or PCOLCE, binds to the C-terminal propeptide of Type I procollagen. It is an extracellular matrix glycoprotein that can heighten the activity of procollagen C-proteinase in a substrate-specific way. PCPE-1 can greatly stimulate the action of tolloid metalloproteinases during procollagen processing. Expression of PCPE-1 has been shown to be highest in type I collagen-rich connective tissues such as skin and tendon.

REFERENCES

1. Takahara, K., et al. 1994. Type I procollagen COOH-terminal proteinase enhancer protein: identification, primary structure, and chromosomal localization of the cognate human gene (PCOLCE). *J. Biol. Chem.* 269: 26280-26285.
2. Scott, I.C., et al. 1999. Structural organization and expression patterns of the human and mouse genes for the type I procollagen COOH-terminal proteinase enhancer protein. *Genomics* 55: 229-234.
3. Mott, J.D., et al. 2000. Post-translational proteolytic processing of procollagen C-terminal proteinase enhancer releases a metalloproteinase inhibitor. *J. Biol. Chem.* 275: 1384-1390.
4. Baker, A.H., et al. 2002. Metalloproteinase inhibitors: biological actions and therapeutic opportunities. *J. Cell. Sci.* 115: 3719-3727.
5. Ricard-Blum, S., et al. 2002. Interaction properties of the procollagen C-proteinase enhancer protein shed light on the mechanism of stimulation of BMP-1. *J. Biol. Chem.* 277: 33864-33869.
6. Bernocco, S., et al. 2003. Low resolution structure determination shows procollagen C-proteinase enhancer to be an elongated multidomain glycoprotein. *J. Biol. Chem.* 278: 7199-7205.
7. Petropoulou, V., et al. 2005. Identification of the minimal domain structure of bone morphogenetic protein-1 (BMP-1) for chordinase activity: chordinase activity is not enhanced by procollagen C-proteinase enhancer-1 (PCPE-1). *J. Biol. Chem.* 280: 22616-22623.

CHROMOSOMAL LOCATION

Genetic locus: PCOLCE (human) mapping to 7q22.1; Pcolce (mouse) mapping to 5 G2.

SOURCE

PCPE-1 (7A11/1) is a mouse monoclonal antibody raised against recombinant PCPE-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

PCPE-1 (7A11/1) is recommended for detection of the CUB2 domain of PCPE-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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 PCPE-1 siRNA (h): sc-45728, PCPE-1 siRNA (m): sc-45729, PCPE-1 shRNA Plasmid (h): sc-45728-SH, PCPE-1 shRNA Plasmid (m): sc-45729-SH, PCPE-1 shRNA (h) Lentiviral Particles: sc-45728-V and PCPE-1 shRNA (m) Lentiviral Particles: sc-45729-V.

Molecular Weight of PCPE-1 active precursor: 55 kDa.

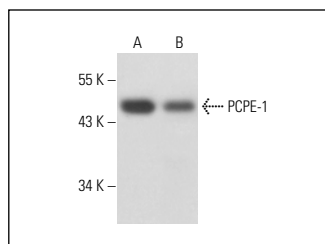
Molecular Weight of PCPE-1 active amino-terminal forms: 36/34 kDa.

Positive Controls: CCD-1064Sk cell lysate: sc-2263, WI-38 whole cell lysate: sc-364260 or BJ whole cell lysate: sc-364359.

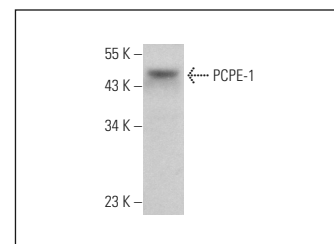
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



PCPE-1 (7A11/1): sc-73001. Western blot analysis of PCPE-1 expression in CCD-1064Sk (A) and BJ (B) whole cell lysates.



PCPE-1 (7A11/1): sc-73001. Western blot analysis of PCPE-1 expression in WI-38 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Kessler, E. and Hassoun, E. 2019. Procollagen C-proteinase enhancer 1 (PCPE-1) in liver fibrosis. *Methods Mol. Biol.* 1944: 189-201.

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.