

# PC7/8 (V-20): sc-22903

## BACKGROUND

The subtilisin-like prohormone convertase (PC) family mediates the cleavage of latent precursor proteins into their biologically active forms. This is a tightly regulated process that leads to the generation of various active peptides and proteins, including neuropeptides, polypeptide hormones, protein tyrosine phosphatases, growth factors and their receptors, and enzymes such as matrix metalloproteases (MMPs). These processing reactions occur at pairs of basic amino acids. The members of the PC family include furin, PC1/3, PC2, PACE4, PC5/6 and PC7/8 (also designated lymphoma proprotein convertase or LPC), all of which share homology to the bacterial subtilisin and yeast kexin families of endoproteases. The human PC7/8 gene maps to chromosome 11q23.3 and encodes a protein that is widely expressed in many tissues, including skin, stomach, skeletal muscle, ovary, testis, colon and lymphoid-associated tissues. PC7/8 is expressed as a precursor protein that is cleaved into a mature form and, to a lesser extent, a carboxy-terminal truncated form. Proteins processed by PC7/8 include parathyroid hormone (proPTH) and gp160.

## REFERENCES

1. Bruzzaniti, A., et al. 1996. PC8, a new member of the convertase family. *Biochem. J.* 314: 727-731.
2. Seidah, N.G., et al. 1996. cDNA structure, tissue distribution, and chromosomal localization of rat PC7, a novel mammalian proprotein convertase closest to yeast kexin-like proteinases. *Proc. Natl. Acad. Sci. USA* 93: 3388-3393.
3. Munzer, J.S., et al. 1997. *In vitro* characterization of the novel proprotein convertase PC7. *J. Biol. Chem.* 272: 19672-19681.
4. Decroly, E., et al. 1997. Comparative functional role of PC7 and furin in the processing of the HIV envelope glycoprotein gp160. *FEBS Lett.* 405: 68-72.
5. Canaff, L., et al. 1999. Parathyroid hormone processing by the proprotein convertase-7: comparison with furin and assessment of modulation of parathyroid convertase messenger ribonucleic acid levels by calcium and 1,25-dihydroxyvitamin D3. *Endocrinology* 140: 3633-3642.

## CHROMOSOMAL LOCATION

Genetic locus: PCSK7 (human) mapping to 11q23.3.

## SOURCE

PC7/8 (V-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PC7/8 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-22903 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## RESEARCH USE

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

## APPLICATIONS

PC7/8 (V-20) is recommended for detection of PC7 and PC8 of 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)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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 PC7/8 siRNA (h): sc-40888, PC7/8 shRNA Plasmid (h): sc-40888-SH and PC7/8 shRNA (h) Lentiviral Particles: sc-40888-V.

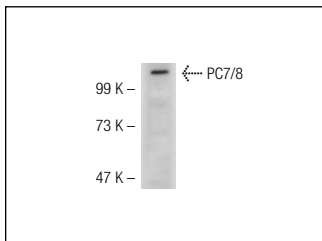
Molecular Weight of PC7/8: 89 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204.

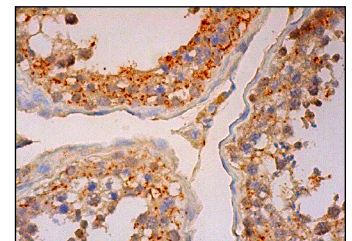
## RECOMMENDED SECONDARY REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

## DATA



PC7/8 (V-20): sc-22903. Western blot analysis of PC7/8 expression in Jurkat whole cell lysate.



PC7/8 (V-20): sc-22903. Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing cytoplasmic staining of cells in seminiferous ducts and Leydig cells.

## SELECT PRODUCT CITATIONS

1. Freyer, C., et al. 2007. Pro-protein convertases (PCs) other than PC6 are not tightly regulated for implantation in the human endometrium. *Reproduction* 133: 1189-1197.

## STORAGE

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