SANTA CRUZ BIOTECHNOLOGY, INC.

PC5/6 (T-19): sc-22900

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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, PC4, 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 PC5/6 gene maps to chromosome 9 and encodes a protein that is expressed in brain, adrenal and thyroid glands, heart, placenta, lung and testis. PC5/6 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 PC5/6 include several growth factors, adhesion molecules and extracellular matrix compounds. Specifically, PC5/6 is involved in the activation of neurotensin and neuromedin in brain.

REFERENCES

1. Mbikay, M., et al. 1995. Chromosomal assignment of the genes for proprotein convertases PC4, PC5, and PACE4 in mouse and human. Genomics 26: 123-129.
2. Mercure, C., et al. 1996. Prohormone convertase PC5 is a candidate processing enzyme for prorenin in the human adrenal cortex. Hypertension 28: 840-846.
3. Zheng, M., et al. 1997. The developmental expression in the rat CNS and peripheral tissues of proteases PC5 and PACE4 mRNAs: comparison with other proprotein processing enzymes. Dev. Biol. 181: 268-283.
4. Barbero, P., et al. 1998. PC5-A-mediated processing of pro-neurotensin in early compartments of the regulated secretory pathway of PC5-transfected PC12 cells. J. Biol. Chem. 273: 25339-25346.
5. Villeneuve, P., et al. 1999. Immunohistochemical distribution of the prohormone convertase PC5-A in rat brain. Neuroscience 92: 641-654.
6. Bassi, D.E., et al. 2000. The proprotein convertases Furin and PACE4 play a significant role in tumor progression. Mol. Carcinog. 28: 63-69.
7. Villeneuve, P., et al. 2000. Immunohistochemical evidence for the involvement of protein convertases 5A and 2 in the processing of pro-neurotensin in rat brain. J. Comp. Neurol. 424: 461-475.

CHROMOSOMAL LOCATION

Genetic locus: PCSK5 (human) mapping to 9q21.13; Pcsk5 (mouse) mapping to 19 B.

SOURCE

PC5/6 (T-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PC5/6 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-22900 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PC5/6 (T-19) is recommended for detection of PC5/6 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).

PC5/6 (T-19) is also recommended for detection of PC5/6 in additional species, including equine and canine.

Suitable for use as control antibody for PC5/6 siRNA (h): sc-40886, PC5/6 siRNA (m): sc-40887, PC5/6 shRNA Plasmid (h): sc-40886-SH, PC5/6 shRNA Plasmid (m): sc-40887-SH, PC5/6 shRNA (h) Lentiviral Particles: sc-40886-V and PC5/6 shRNA (m) Lentiviral Particles: sc-40887-V.

Molecular Weight of PC5/6: 70 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.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.