

PC2 (h): 293T Lysate: sc-172360

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 pro-protein convertase or LPC), all of which share homology to the bacterial subtilisin and yeast kexin families of endoproteases. PC1/3, also designated neuroendocrine 1 (NEC1), and PC2, also designated neuroendocrine 2 (NEC2), are widely expressed in neuroendocrine tissues, and are principally involved in the processing of hormonal and neural peptides. The human PC2 gene maps to chromosome 20p12.1, and is expressed in pancreatic islets, pituitary, and brain as a precursor protein and a mature form. Cleavage of proPC2 is dependent upon its interaction with 7B2, a cofactor that acts as both an activator and inhibitor of PC2 function. Proteins processed by PC2 include proglucagon, prosomatostatin, proinsulin, and pro-islet amyloid polypeptide.

REFERENCES

1. Seidah, N.G., et al. 1991. Chromosomal assignments of the genes for neuroendocrine convertase PC1 (NEC1) to human 5q15-21, neuroendocrine convertase PC2 (NEC2) to human 20p11.1-11.2 and furin (mouse 7 D1-E2 region). *Genomics* 11: 103-107.
2. Ohagi, S., et al. 1994. Analysis of the gene encoding human PC2, a pro-hormone processing enzyme. *Nippon Rinsho* 52: 2544-2549.
3. Galanopoulou, A.S., et al. 1995. Heterologous processing of rat prosomatostatin to somatostatin-14 by PC2: requirement for secretory cell but not the secretion granule. *Biochem. J.* 311: 111-118.
4. Bassi, D.E., et al. 2000. The proprotein convertases furin and PACE4 play a significant role in tumor progression. *Mol. Carcinog.* 28: 63-69.
5. Berman, Y., et al. 2000. Defective prodynorphin processing in mice lacking prohormone convertase PC2. *J. Neurochem.* 75: 1763-1770.
6. Wang, J., et al. 2001. The prohormone convertase enzyme 2 (PC2) is essential for processing pro-islet amyloid polypeptide at the NH₂-terminal cleavage site. *Diabetes* 50: 534-539.

CHROMOSOMAL LOCATION

Genetic locus: PCSK2 (human) mapping to 20p12.1.

PRODUCT

PC2 (h): 293T Lysate represents a lysate of human PC2 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

APPLICATIONS

PC2 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive PC2 antibodies. Recommended use: 10-20 µl per lane.

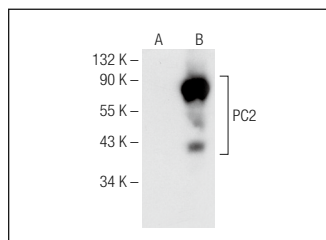
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

PC2 (E-8): sc-374140 is recommended as a positive control antibody for Western Blot analysis of enhanced human PC2 expression in PC2 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

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.

DATA



PC2 (E-8): sc-374140. Western blot analysis of PC2 expression in non-transfected: sc-117752 (A) and human PC2 transfected: sc-172360 (B) 293T whole cell lysates.

RESEARCH USE

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

PROTOCOLS

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