SANTA CRUZ BIOTECHNOLOGY, INC.

PC2 (E-8): sc-374140

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. 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 prohormone processing enzyme. Nippon Rinsho 52: 2544-2549.

CHROMOSOMAL LOCATION

Genetic locus: PCSK2 (human) mapping to 20p12.1; Pcsk2 (mouse) mapping to 2 G1.

SOURCE

PC2 (E-8) is a mouse monoclonal antibody raised against amino acids 571-638 mapping at the C-terminus of PC2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PC2 (E-8) is available conjugated to agarose (sc-374140 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-374140 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374140 PE), fluorescein (sc-374140 FITC), Alexa Fluor® 488 (sc-374140 AF488), Alexa Fluor® 546 (sc-374140 AF546), Alexa Fluor® 594 (sc-374140 AF594) or Alexa Fluor® 647 (sc-374140 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374140 AF680) or Alexa Fluor® 790 (sc-374140 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

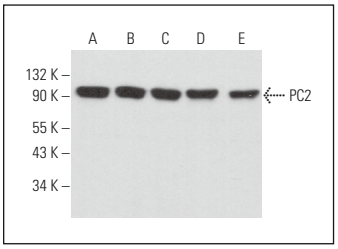
PC2 (E-8) is recommended for detection of PC2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), 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 PC2 siRNA (h): sc-40884, PC2 siRNA (m): sc-40885, PC2 siRNA (r): sc-270277, PC2 shRNA Plasmid (h): sc-40884-SH, PC2 shRNA Plasmid (m): sc-40885-SH, PC2 shRNA Plasmid (r): sc-270277-SH, PC2 shRNA (h) Lentiviral Particles: sc-40884-V, PC2 shRNA (m) Lentiviral Particles: sc-40885-V and PC2 shRNA (r) Lentiviral Particles: sc-270277-V.

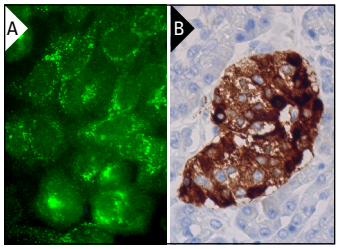
Molecular Weight of PC2: 75/68 kDa.

Positive Controls: SK-N-SH cell lysate: sc-2410, K-562 whole cell lysate: sc-2203 or HeLa whole cell lysate: sc-2200.

DATA



PC2 (E-8): sc-374140. Western blot analysis of PC2 expression in HeLa (**A**), SK-N-SH (**B**), K-562 (**C**), HEK293 (**D**) and Hep G2 (**E**) whole cell lysates.



PC2 (E-8): sc-374140. Immunofluorescence staining of formalin-fixed A-431 cells showing cytoplasmic vesicles localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cytoplasmic staining of Islets of Langerhans (**B**).

SELECT PRODUCT CITATIONS

1. Lam, C.J., et al. 2019. Low-level Insulin content within abundant non-β islet endocrine cells in long-standing type 1 diabetes. Diabetes 68: 598-608.
2. da Rosa-Santos, C.A., et al. 2020. Early protein restriction increases intra-islet GLP-1 production and pancreatic β-cell proliferation mediated by the β-catenin pathway. Eur. J. Nutr. 59: 3565-3579.
3. Pereira de Arruda, E.H., et al. 2020. Protein restriction during pregnancy impairs intra-islet GLP-1 and the expansion of β-cell mass. Mol. Cell. Endocrinol. 518: 110977.

RESEARCH USE

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