SANTA CRUZ BIOTECHNOLOGY, INC.

PCSK1 (J-18): sc-100578

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

PCSK1 (proprotein convertase subtilisin/kexin type 1), also known as PC1 (prohormone convertase 1), PC3, NEC1 (neuroendocrine convertase 1) or SPC3, is a member of the subtilisin-like proprotein convertase family that plays an important role in the processing of hormones such as Renin, Dynorphin, POMC, Synenkephalin, Insulin and Somatostatin. PCSK1 localizes to the cytoplasm and, using calcium as a cofactor, specifically catalyzes a hydrolysis reaction that releases protein hormones, Renin and neuropeptides from their corresponding precursors. PCSK1 is involved in the regulation of Insulin biosynthesis and functions as a type I proinsulin-processing enzyme. Mutations in the gene encoding PCSK1 can lead to PC1 deficiency, a disorder characterized by hypogonadism, obesity, reactive hypoglycemia, hypoadrenalism and small-intestinal absorptive dysfunction. Various isoforms exist for PCSK1 due to alternative splicing events.

CHROMOSOMAL LOCATION

Genetic locus: PCSK1 (human) mapping to 5q15; Pcsk1 (mouse) mapping to 13 C1.

SOURCE

PCSK1 (J-18) is a mouse monoclonal antibody raised against recombinant PCSK1 of human origin.

PRODUCT

Each vial contains 100 µg IgG_3 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

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.

APPLICATIONS

PCSK1 (J-18) is recommended for detection of PCSK1 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)], 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 PCSK1 siRNA (h): sc-91918, PCSK1 siRNA (m): sc-152118, PCSK1 siRNA (r): sc-270276, PCSK1 shRNA Plasmid (h): sc-91918-SH, PCSK1 shRNA Plasmid (m): sc-152118-SH, PCSK1 shRNA Plasmid (r): sc-270276-SH, PCSK1 shRNA (h) Lentiviral Particles: sc-91918-V, PCSK1 shRNA (m) Lentiviral Particles: sc-152118-V and PCSK1 shRNA (r) Lentiviral Particles: sc-270276-V.

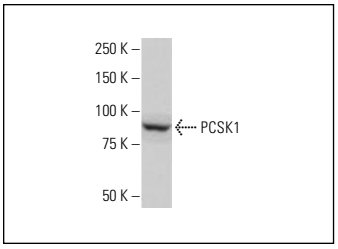
Molecular Weight of PCSK1: 64 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

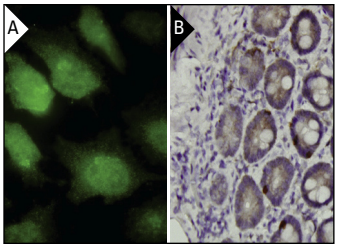
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



PCSK1 (J-18): sc-100578. Western blot analysis of PCSK1 expression in HeLa whole cell lysate.



PCSK1 (J-18): sc-100578. Immunofluorescence staining of paraformaldehyde-fixed HeLa cells (**A**) and immunoperoxidase staining of formalin-fixed, paraffin-embedded human small intestine tissue (**B**) showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Hokama, M., et al. 2014. Altered expression of diabetes-related genes in Alzheimer's disease brains: the Hisayama study. Cereb. Cortex 24: 2476-2488.
2. Abolhassani, N., et al. 2016. Molecular pathophysiology of impaired glucose metabolism, mitochondrial dysfunction, and oxidative DNA damage in Alzheimer's disease brain. Mech. Ageing Dev. 161: 95-104.
3. Riehle, K.J., et al. 2019. Neurotensin as a source of cyclic AMP and co-mitogen in fibrolamellar hepatocellular carcinoma. Oncotarget 10: 5092-5102.
4. Oppenländer, L., et al. 2021. Vertical sleeve gastrectomy triggers fast β-cell recovery upon overt diabetes. Mol. Metab. E-published.

PROTOCOLS

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