SANTA CRUZ BIOTECHNOLOGY, INC.

PTF1 (C-7): sc-393011

BACKGROUND

PTF1, also known as PTF1A (pancreas specific transcription factor, 1A) or PTF1-p48, is a pancreas-specific protein that functions as a component of the trimeric pancreas transcription factor 1 (PTF1) complex. Localizing to the nucleus, PTF1 contains one basic helix-loop-helix (bHLH) domain and is believed to play an important role in mammalian pancreatic development, functioning as a transcription factor that regulates the specification of all three pancreatic cell types. PTF1 interacts with RBP-Jκ and, together, they cooperate in regulating the expression of PDX-1 (pancreas/duodenum homeobox protein 1), a key regulator of pancreatic islet development and Insulin gene transcription in β-cells. Loss of functional PTF1 can cause pancreatic progenitors to take on the normal fates of duodenal epithelia. Mutations in the gene encoding PTF1 lead to diabetes mellitus and cerebellar hypoplasia/agenesis, suggesting that PTF1 also plays and important role in cerebellar neurogenesis.

REFERENCES

1. Krapp, A., et al. 1998. The bHLH protein PTF1-p48 is essential for the formation of the exocrine and the correct spatial organization of the endocrine pancreas. Genes Dev. 12: 3752-3763.
2. Kawaguchi, Y., et al. 2002. The role of the transcriptional regulator PTF1A in converting intestinal to pancreatic progenitors. Nat. Genet. 32: 128-134.

CHROMOSOMAL LOCATION

Genetic locus: PTF1A (human) mapping to 10p12.2; Ptf1a (mouse) mapping to 2 A3.

SOURCE

PTF1 (C-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 302-328 at the C-terminus of PTF1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 lambda light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-393011 X, 200 µg/0.1 ml.

PTF1 (C-7) is available conjugated to agarose (sc-393011 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393011 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393011 PE), fluorescein (sc-393011 FITC), Alexa Fluor® 488 (sc-393011 AF488), Alexa Fluor® 546 (sc-393011 AF546), Alexa Fluor® 594 (sc-393011 AF594) or Alexa Fluor® 647 (sc-393011 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393011 AF680) or Alexa Fluor® 790 (sc-393011 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-393011 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

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

APPLICATIONS

PTF1 (C-7) is recommended for detection of PTF1 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).

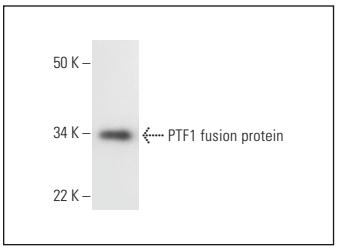
PTF1 (C-7) is also recommended for detection of PTF1 in additional species, including canine and porcine.

Suitable for use as control antibody for PTF1 siRNA (h): sc-76285, PTF1 siRNA (m): sc-76286, PTF1 shRNA Plasmid (h): sc-76285-SH, PTF1 shRNA Plasmid (m): sc-76286-SH, PTF1 shRNA (h) Lentiviral Particles: sc-76285-V and PTF1 shRNA (m) Lentiviral Particles: sc-76286-V.

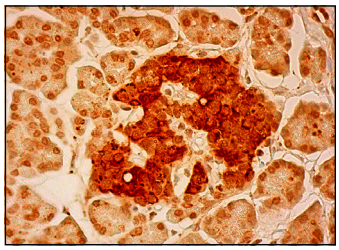
PTF1 (C-7) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of PTF1: 42 kDa.

DATA



PTF1 (C-7): sc-393011. Western blot analysis of human recombinant PTF1 fusion protein.



PTF1 (C-7): sc-393011. Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing nuclear and cytoplasmic staining of exocrine glandular cells and Islets of Langerhans.

SELECT PRODUCT CITATIONS

1. Calle, A.S., et al. 2016. A new PDAC mouse model originated from iPSCs-converted pancreatic cancer stem cells (CSCcm). Am. J. Cancer Res. 6: 2799-2815.
2. Bejoy, J., et al. 2020. Wnt-Notch signaling interactions during neural and astroglial patterning of human stem cells. Tissue Eng. Part A 26: 419-431.
3. Osman, A., et al. 2020. Tumor-associated macrophages derived from cancer stem cells. Acta Histochem. 122: 151628.
4. Gong, C., et al. 2021. Human spinal GABA neurons alleviate spasticity and improve locomotion in rats with spinal cord injury. Cell Rep. 34: 108889.
5. Xu, J., et al. 2022. Spinal dI4 interneuron differentiation from human pluripotent stem cells. Front. Mol. Neurosci. 15: 845875.

STORAGE

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