

PDX-1 (H-140): sc-25403

BACKGROUND

Pancreatic duodenal homeobox-1 protein (PDX-1), also designated Insulin promoter factor (IPF1), Insulin upstream factor 1 (IUF1), somatostatin transactivating factor-1 (STF-1) and glucose-sensitive factor (GSF), is a 282 amino acid homeodomain-containing transcription factor present in pancreatic β -cells. PDX-1 is a key regulator of pancreatic islet development and Insulin gene transcription in β -cells. PDX-1 is expressed in all cells at the early stages of development and is mainly restricted to the pancreas and duodenum in adult. HNF-3 β , HNF-1 α and SP1 positively regulate the PDX-1 enhancer element. PDX-1 is also regulated by glucagon-like peptide through activation of adenylyl cyclase, which results in an increase in intracellular cAMP activity. The increased levels of cAMP, and the resulting activation of PKA, lead to an increase in PDX-1 transcription and translocation of the protein to the nuclei of β -cells. PDX-1 binds to the sequence C(C/T) and can heterodimerize with PBX. PDX-1 is phosphorylated by the SAPK2 pathway under high glucose concentrations. Mutations in the PDX-1 gene can cause maturity-onset diabetes of the young and pancreatic agenesis.

CHROMOSOMAL LOCATION

Genetic locus: PDX1 (human) mapping to 13q12.2; Pdx1 (mouse) mapping to 5 G3.

SOURCE

PDX-1 (H-140) is a rabbit polyclonal antibody raised against amino acids 1-140 (deletion 20-56) of PDX-1 of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Available as agarose conjugate for immunoprecipitation, sc-25403 AC, 500 μ g/0.25 ml agarose in 1 ml.

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-25403 X, 200 μ g/0.1 ml.

APPLICATIONS

PDX-1 (H-140) is recommended for detection of PDX-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], 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).

Suitable for use as control antibody for PDX-1 siRNA (h): sc-38760, PDX-1 siRNA (m): sc-38761, PDX-1 siRNA (r): sc-108040, PDX-1 shRNA Plasmid (h): sc-38760-SH, PDX-1 shRNA Plasmid (m): sc-38761-SH, PDX-1 shRNA Plasmid (r): sc-108040-SH, PDX-1 shRNA (h) Lentiviral Particles: sc-38760-V, PDX-1 shRNA (m) Lentiviral Particles: sc-38761-V and PDX-1 shRNA (r) Lentiviral Particles: sc-108040-V.

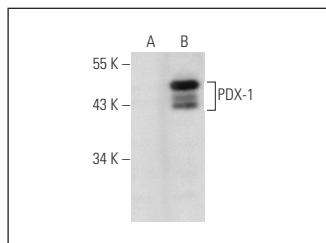
PDX-1 (H-140) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of PDX-1: 46 kDa.

STORAGE

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

DATA



PDX-1 (H-140): sc-25403. Western blot analysis of PDX-1 expression in non-transfected: sc-117752 (A) and human PDX-1 transfected: sc-129445 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Tsukada, S., et al. 2009. Transcription factor AP-2 β inhibits glucose-induced Insulin secretion in cultured Insulin-secreting cell-line. *Diabetes Res. Clin. Pract.* 85: 279-285.
2. Thatava, T., et al. 2010. Indolactam V/GLP-1-mediated differentiation of human iPS cells into glucose-responsive Insulin-secreting progeny. *Gene Ther.* 18: 283-293.
3. Marzioni, M., et al. 2010. Pancreatic duodenal homeobox-1 *de novo* expression drives cholangiocyte neuroendocrine-like transdifferentiation. *J. Pathology* 53: 663-670.
4. Ohmine, S., et al. 2011. Induced pluripotent stem cells from GMP-grade hematopoietic progenitor cells and mononuclear myeloid cells. *Stem Cell Res. Ther.* 2: 46.
5. Carpino, G., et al. 2012. Biliary tree stem/progenitor cells in glands of extrahepatic and intrahepatic bile ducts: an anatomical *in situ* study yielding evidence of maturational lineages. *J. Anat.* 220: 186-199.
6. Ohmine, S., et al. 2012. Reprogrammed keratinocytes from elderly type 2 diabetes patients suppress senescence genes to acquire induced pluripotency. *Aging* 4: 60-73.
7. Cim, A., et al. 2012. *In vivo* studies on non-viral transdifferentiation of liver cells towards pancreatic β cells. *J. Endocrinol.* 214: 277-288.

RESEARCH USE

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



Try **PDX-1 (B-11): sc-390792** or **PDX-1 (E-5): sc-390808**, our highly recommended monoclonal alternatives to PDX-1 (H-140). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **PDX-1 (B-11): sc-390792**.