

Pax-4 (M-20): sc-27835

BACKGROUND

Pax-4 (paired box gene 4) protein influences normal differentiation of Insulin-producing β cells and influences normal pancreatic islet development. Pax-4 protein is a transcriptional repressor that binds to a common *cis* element in the glucagon, Insulin and somatostatin promoters. Mouse Pax-4 transcript is present in pancreatic islets, and the islet β cell lines MIN6, β TC, and NIT-1. Differentiation of endoderm-derived endocrine pancreas is mediated through Pax-4 and Pax-6. Pax-4 may act as a Pax-6 repressor due to the competition for binding sites and lower transactivation potential of Pax-4. The human Pax-4 gene encodes a deduced 350-amino acid protein that is 80% identical to the deduced mouse Pax-4 protein.

REFERENCES

1. Matsushita, T., et al. 1998. Molecular cloning of mouse paired-box-containing gene (Pax)-4 from an islet β cell line and deduced sequence of human Pax-4. *Biochem. Biophys. Res. Comm.* 242: 176-180.
2. Larsson, L.I., et al. 1998. Pax 4 and 6 regulate gastrointestinal endocrine cell development. *Mech. Dev.* 79: 153-159.
3. Kalousova, A., et al. 1999. DNA binding and transactivating properties of the paired and homeobox protein Pax4. *Biochem. Biophys. Res. Comm.* 259: 510-518.
4. Ritz-Laser, B., et al. 2002. The pancreatic β -cell-specific transcription factor Pax-4 inhibits glucagon gene expression through Pax-6. *Diabetologia* 45: 97-107.
5. Kemp, D.M., et al. 2003. Regulation of Pax4 paired homeodomain gene by neuron-restrictive silencer factor. *J. Biol. Chem.* 278: 35057-35062.
6. LocusLink Report (LocusID: 5078). <http://www.ncbi.nlm.nih.gov/LocusLink/>

CHROMOSOMAL LOCATION

Genetic locus: Pax4 (mouse) mapping to 6 A3.3.

SOURCE

Pax-4 (M-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of Pax-4 of mouse origin.

PRODUCT

Each vial contains 200 μ g IgG 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-27835 X, 200 μ g/0.1 ml.

Blocking peptide available for competition studies, sc-27835 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

PROTOCOLS

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

APPLICATIONS

Pax-4 (M-20) is recommended for detection of Pax-4 isoforms 1 and 2 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 Pax-4 siRNA (m): sc-152040, Pax-4 shRNA Plasmid (m): sc-152040-SH and Pax-4 shRNA (m) Lentiviral Particles: sc-152040-V.

Pax-4 (M-20) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of Pax-4: 38 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Gao, X., et al. 2008. Transplantation of bone marrow derived cells promotes pancreatic islet repair in diabetic mice. *Biochem. Biophys. Res. Commun.* 371: 132-137.
2. Liang, X.D., et al. 2011. Streptozotocin-induced expression of Ngn3 and Pax4 in neonatal rat pancreatic α -cells. *World J. Gastroenterol.* 17: 2812-2820.

RESEARCH USE

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


 MONOS
Satisfaction
Guaranteed

Try **Pax (D-7): sc-514352**, our highly recommended monoclonal alternative to Pax-4 (M-20). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **Pax (D-7): sc-514352**.