

## Pax-4 (M-45): sc-98942

### BACKGROUND

Pax-4 (paired box gene 4) protein influences normal differentiation of Insulin-producing  $\beta$  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  $\beta$  cell lines MIN6,  $\beta$  TC and NIT1. 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., Yamaoka, T., Otsuka, S., Moritani, M., Matsumoto, T. and Itakura, M. 1998. Molecular cloning of mouse paired box containing gene Pax-4 from an islet  $\beta$  cell line and deduced sequence of human Pax-4. *Biochem. Biophys. Res. Commun.* 242: 176-180.
2. Larsson, L.I., St-Onge, L., Hougaard, D.M., Sosa-Pineda, B. and Gruss, P. 1998. Pax-4 and -6 regulate gastrointestinal endocrine cell development. *Mech. Dev.* 79: 153-159.
3. Kalousová, A., Benes, V., Paces, J., Paces, V. and Kozmik, Z. 1999. DNA binding and transactivating properties of the paired and homeobox protein Pax-4. *Biochem. Biophys. Res. Commun.* 259: 510-518.
4. Ritz-Laser, B., Streicher, A., Gauthier, B.R., Mamin, A., Edlund, H. and Philippe, J. 2002. The pancreatic  $\beta$  cell-specific transcription factor Pax-4 inhibits Glucagon gene expression through Pax-6. *Diabetologia* 45: 97-107.
5. Kemp, D.M., Lin, J.C. and Habener, J.F. 2003. Regulation of Pax-4 paired homeodomain gene by neuron-restrictive silencer factor. *J. Biol. Chem.* 278: 35057-35062.

### CHROMOSOMAL LOCATION

Genetic locus: PAX4 (human) mapping to 7q32.1; Pax4 (mouse) mapping to 6 A3.3.

### SOURCE

Pax-4 (M-45) is a rabbit polyclonal antibody raised against amino acids 142-186 mapping within an internal region of Pax-4 of mouse origin.

### PRODUCT

Each vial contains 200  $\mu$ 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-98942 X, 200  $\mu$ g/0.1 ml.

### 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

Pax-4 (M-45) is recommended for detection of Pax-4 of mouse, rat and, to a lesser extent, human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ 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 Pax-4 siRNA (h): sc-43998, Pax-4 siRNA (m): sc-152040, Pax-4 shRNA Plasmid (h): sc-43998-SH, Pax-4 shRNA Plasmid (m): sc-152040-SH, Pax-4 shRNA (h) Lentiviral Particles: sc-43998-V and Pax-4 shRNA (m) Lentiviral Particles: sc-152040-V.

Pax-4 (M-45) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

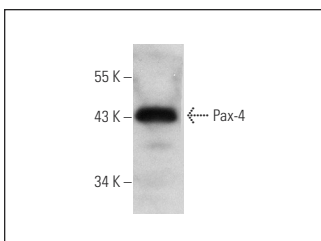
Molecular Weight of Pax-4: 38 kDa.

Positive Controls: NIH/3T3 nuclear extract: sc-2138.

### RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

### DATA



Pax-4 (M-45): sc-98942. Western blot analysis of Pax-4 expression in NIH/3T3 nuclear extract.

### PROTOCOLS

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