SANTA CRUZ BIOTECHNOLOGY, INC.

# Pax-4 (3C12): sc-517254

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## 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 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 β 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., Estreicher, A., Gauthier, B.R., Mamin, A., Edlund, H. and Philippe, J. 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., 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.

## SOURCE

Pax-4 (3C12) is a mouse monoclonal antibody raised against a recombinant protein corresponding to amino acids 105-232 of Pax-4 of human origin.

## PRODUCT

Each vial contains 200 µg $IgG_1$ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Pax-4 (3C12) is available conjugated to agarose (sc-517254 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-517254 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-517254 PE), fluorescein (sc-517254 FITC), Alexa Fluor® 488 (sc-517254 AF488), Alexa Fluor® 546 (sc-517254 AF546), Alexa Fluor® 594 (sc-517254 AF594) or Alexa Fluor® 647 (sc-517254 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-517254 AF680) or Alexa Fluor® 790 (sc-517254 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.



## APPLICATIONS

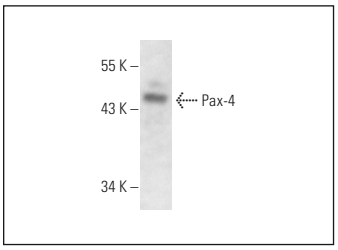
Pax-4 (3C12) is recommended for detection of Pax-4 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Pax-4 siRNA (h): sc-43998, Pax-4 shRNA Plasmid (h): sc-43998-SH and Pax-4 shRNA (h) Lentiviral Particles: sc-43998-V.

Molecular Weight of Pax-4: 38 kDa.

Positive Controls: SW480 nuclear extract: sc-2155.

## DATA




Pax-4 (3C12): sc-517254. Western blot analysis of Pax-4 expression in SW480 nuclear extract.

## 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.

## PROTOCOLS

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