

Rabbit Polyclonal Anti-PAX4 antibody

Catalog Number: PAX4-401AP

Lot Number:

General Information

Product	PAX4 Antibody
Description	Paired Box Protein Pax-4 Antibody
Accession #	Uniprot: O43316
Verified Applications	ELISA, WB
Species Cross Reactivity	Human, Mouse
Host	Rabbit
Immunogen	Synthetic peptide corresponding to unique amino acid sequence on PAX4 protein.
Alternative Nomenclature	KPD antibody, MGC129960 antibody, MODY9 antibody, Paired domain gene 4 antibody, Pax4 antibody

Physical Properties

Quantity	100 µg
Volume	200 µl
Form	Affinity Purified Immunoglobulins
Immunoglobulin & Concentration	0.92-1.25 mg/ml IgG in antibody stabilization buffer
Storage	Store at -20°C for long term storage.

Recommended Dilutions

DOT Blot	1:10,000
ELISA	1:10,000
Western Blot	1:500

Related Products

Catalog

FITC-Conjugated	PAX4-FITC
Antigenic Blocking Peptide	P-PAX4
Western Blot Positive Control	PC-PAX4
PAX1	PAX-101AP
PAX2	PAX2-201AP
PAX3	PAX3-301AP
PAX4	PAX4-401AP
PAX5	PAX5-501AP, PAX5-512AP, PAX5-521AP
PAX8	PAX8-801AP

Overview:

Pax proteins are a family of transcription factors with a highly conserved paired domain. Many members also contain a paired-type homeodomain and/or an octapeptide. Nine mammalian PAX members are currently known and classified into four subgroups: Pax group 1: Pax 1 and 9, Pax Group 2: Pax 2, 5 and 8, Pax group 3: Pax 3 and 7, and Pax group 4: Pax 4 and 6. Most of these genes are involved in nervous system development. The homeobox, which encodes the DNA-binding homeo-domain, is a DNA binding sequence motif present in several *Drosophila melanogaster* developmental genes; it has been used to identify many homologous genes involved in mammalian development. The paired box is another conserved sequence motif, first identified in the paired (*prd*) and gooseberry (*gsb*) *Drosophila* homeo-domain genes. The amino-terminal region of the paired domain, including one of the three predicted alpha-helices, is necessary and sufficient for binding. Single amino acid substitution mutation in PAX1 causes formation of the mouse skeletal undulated mutant (1).

PAX4 and PAX6 are highly related and belong to a PAX family of transcription factor that contain both a paired domain and a homeodomain which are potential DNA binding domains. The PAX4 and PAX6 mRNA is expressed at murine embryonic age E9.5 in ventral spinal cord and pancreas. PAX4 is identified as only regulator of endocrine development of pancreas and its targets genes are not known (2). PAX4 heterozygotes containing a single mutated PAX4 gene are normal however, double null mutant of PAX4 and PAX6 fail to produce any mature pancreatic endocrine cells, suggesting the PAX4 and PAX6 together are required for pancreatic endocrine cell differentiation (2). PAX4 and PAX6 bind to various sequences in the rat insulin I, somatostatin and glucagons promoters and acts as repressor for gene expression. The homeodomain and the carboxy portion of the PAX4 molecule confers the majority of the repressive activity. PAX4 expression peaks early in the pancreatic development and it is not expressed in mature islets cells (2).

The PAX4 selective antibodies were generated against conserved sequences at or near C-terminal end of the protein that is unique to specific PAX protein. The PAX4-selective antibodies are affinity purified against immobilized antigen based affinity chromatography which yielded epitope-specific antibodies. Western blot positive control (PC-PAX4) and antigenic blocking peptides (P-PAX4) for PAX4 are available. The PAX4 antibodies label a 43 kDa protein in PC-PAX4 samples. FabGennix carries antibodies against other PAX family members as well as other transcription factors, for a complete listing please view our catalog at <http://fabgennix.com>.

References:

1. Wallin J, Wilting J, Koseki H, Fritsch R, Christ B, Balling R. The role of Pax-1 in axial skeleton development. *Development*. 1994 May;120(5):1109-21.
2. Smith S. B., Ee H. C., Connors J. R., German M. S., Paired homeodomain Transcription factor PAX4 acts as a transcriptional repressor in early pancreatic development. *Mol. Cell Biol*. 1999, 19; 8277-8280.

For users who may require large amounts of the products listed above, please inquire about bulk material discounts. This Product is for Research Use Only and is NOT intended for use in humans or clinical diagnosis.