abcam

Product datasheet

Anti-PDX1 antibody ab98298

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Overview

Product name	Anti-PDX1 antibody
Description	Rabbit polyclonal to PDX1
Host species	Rabbit
Tested applications	**Suitable for:** IP, WB **Unsuitable for:** ICC/IF
Species reactivity	**Reacts with:** Mouse, Human **Predicted to work with:** Rat, Pig, Chimpanzee, Gorilla
Immunogen	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
Positive control	WB: Recombinant Human PDX1 protein (**ab114175**), HeLa and Jurkat nuclear extracts, mouse pancreas tissue lysate and human pancreatic islet cell lysate.
General notes	The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle.
Storage buffer	pH: 7.40 Preservative: 0.02% Sodium azide Constituent: PBS Batches of this product that have a concentration < 1mg/ml may have BSA added as a stabilising agent. If you would like information about the formulation of a specific lot, please contact our scientific support team who will be happy to help.
Purity	Immunogen affinity purified

Clonality	Polyclonal
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab98298 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
IP		Use at an assay dependent concentration.
WB		Use a concentration of 1 µg/ml. Detects a band of approximately 40 kDa (predicted molecular weight: 31 kDa).

Application notes Is unsuitable for ICC/IF.

Target

Function Activates insulin, somatostatin, glucokinase, islet amyloid polypeptide and glucose transporter type 2 gene transcription. Particularly involved in glucose-dependent regulation of insulin gene transcription. Binds preferentially the DNA motif 5'-[CT]TAAT[TG]-3'. During development, specifies the early pancreatic epithelium, permitting its proliferation, branching and subsequent differentiation. At adult stage, required for maintaining the hormone-producing phenotype of the beta-cell.

Tissue specificity Duodenum and pancreas (Langerhans islet beta cells and small subsets of endocrine non-beta-cells, at low levels in acinar cells).

Involvement in disease Defects in PDX1 are a cause of pancreatic agenesis (PAC) [MIM:260370]. This autosomal recessive disorder is characterized by absence or hypoplasia of pancreas, leading to early-onset insulin-dependent diabetes mellitus. This was found in a frameshift mutation that produces a truncated protein and results in a second initiation that produces a second protein that act as a dominant negative mutant.
Defects in PDX1 are a cause of non-insulin-dependent diabetes mellitus (NIDDM) [MIM:125853]; also known as diabetes mellitus type 2. NIDDM is characterized by an autosomal dominant mode of inheritance, onset during adulthood and insulin resistance.
Defects in PDX1 are the cause of maturity-onset diabetes of the young type 4 (MODY4) [MIM:606392]; also symbolized MODY-4. MODY is a form of diabetes that is characterized by an autosomal dominant mode of inheritance, onset in childhood or early adulthood (usually before 25 years of age), a primary defect in insulin secretion and frequent insulin-independence at the beginning of the disease.

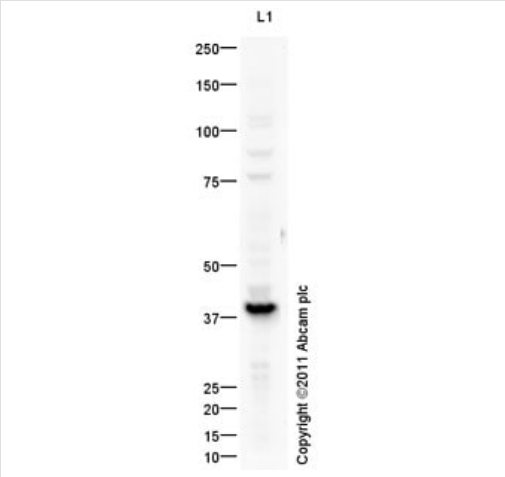
Sequence similarities Belongs to the Antp homeobox family. IPF1/XlHbox-8 subfamily.
Contains 1 homeobox DNA-binding domain.

Domain The Antp-type hexapeptide mediates heterodimerization with PBX on a regulatory element of the somatostatin promoter.
The homeodomain, which contains the nuclear localization signal, not only mediates DNA-binding, but also acts as a protein-protein interaction domain for TCF3(E47), NEUROD1 and HMG-I(Y).

Post-translational modifications Phosphorylated by the SAPK2 pathway at high intracellular glucose concentration.

Cellular localization Nucleus.

Images



Western blot - Anti-PDX1 antibody (ab98298)

Anti-PDX1 antibody (ab98298) at 1 µg/ml + Human Pancreatic Islet Cells at 10 µg

Secondary
Goat Anti-Rabbit IgG H&L (HRP) preadsorbed (**ab97080**) at 1/5000 dilution

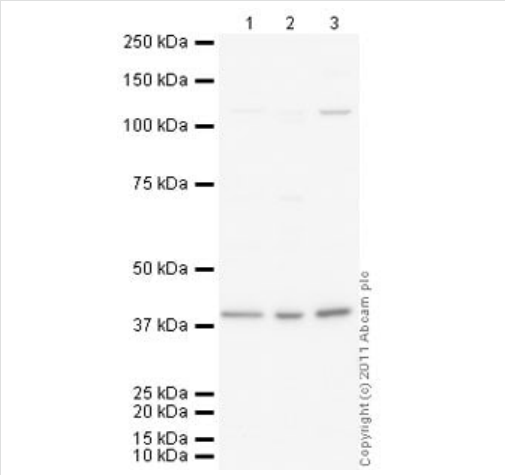
Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 31 kDa
Observed band size: 40 kDa

Exposure time: 4 minutes

The expression profile observed is consistent with what has been described in the literature.



Western blot - Anti-PDX1 antibody (ab98298)

All lanes : Anti-PDX1 antibody (ab98298) at 1 µg/ml

Lane 1 : HeLa (Human epithelial carcinoma cell line) Nuclear Lysate
Lane 2 : Jurkat nuclear extract lysate (**ab14844**)
Lane 3 : Pancreas (Mouse) Tissue Lysate

Lysates/proteins at 10 µg per lane.

Secondary
All lanes : Goat Anti-Rabbit IgG H&L (HRP) preadsorbed (**ab97080**) at 1/5000 dilution

Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 31 kDa

Observed band size: 40 kDa
Additional bands at: 120 kDa. We are unsure as to the identity of these extra bands.

Exposure time: 3 minutes

Immunoprecipitation - Anti-PDX1 antibody (ab98298)

PDX1 was immunoprecipitated using 0.5mg Hela whole cell extract, 5µg of Rabbit polyclonal to PDX1 and 50µl of protein G magnetic beads (+). No antibody was added to the control (-).
The antibody was incubated under agitation with Protein G beads for 10min, Hela whole cell extract lysate diluted in RIPA buffer was added to each sample and incubated for a further 10min under agitation.
Proteins were eluted by addition of 40µl SDS loading buffer and incubated for 10min at 70^{o}C; 10µl of each sample was separated on a SDS PAGE gel, transferred to a nitrocellulose membrane, blocked with 5% BSA and probed with ab98298.
Secondary: Mouse monoclonal [SB62a] Secondary Antibody to Rabbit IgG light chain (HRP) (**ab99697**).
Band: 36kDa: PDX1.

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