Product datasheet

Anti-PDX1 antibody ab47383

Overview

Product name: Anti-PDX1 antibody
Description: Goat polyclonal to PDX1
Host species: Goat
Tested applications: Suitable for: IHC-Fr, Flow Cyt, WB, IHC-P, ICC/IF
Species reactivity: Reacts with: Mouse, Human
Immunogen: Recombinant fusion protein containing sequence from the N-terminus of mouse PDX1

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.
Purity: Whole antiserum
Clonality: Polyclonal
Isotype: IgG

Applications

Our Abpromise guarantee covers the use of ab47383 in the following tested applications.
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

<table>
<thead>
<tr>
<th>Application</th>
<th>Abreviews</th>
<th>Notes</th>
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<tbody>
<tr>
<td>IHC-Fr</td>
<td>⭐⭐⭐⭐⭐</td>
<td>Use at an assay dependent concentration. See Protocols tab for recommended protocol.</td>
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<tr>
<td>Flow Cyt</td>
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<td>Use at an assay dependent concentration. ab37373 - Goat polyclonal IgG, is suitable for use as an isotype control with this antibody.</td>
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<tr>
<td>WB</td>
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<td>Use at an assay dependent concentration. Predicted molecular weight: 30 kDa. PubMed: 24290880</td>
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<tr>
<td>IHC-P</td>
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<td>Use at an assay dependent concentration.</td>
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**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.
ab47383 staining mouse pancreas tissue sections by IHC-Fr. The sections were PFA fixed and blocked in 100% Dako Serum-Free Protein Block for 15 minutes at 22°C prior to incubation with ab47383 diluted 1/10000 in PBS for 18 hours at 4°C. An Alexa Fluor® 568 conjugated donkey anti-goat was used as the secondary. Antigen retrieval was used with 4% PFA. Citrate buffer heated to 90°C.

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