

## Product datasheet

# Anti-PDX1 antibody [EPR22002] ab219207

Recombinant RabMAb

[2 References](#) [8 Images](#)

### Overview

<b>Product name</b>	Anti-PDX1 antibody [EPR22002]
<b>Description</b>	Rabbit monoclonal [EPR22002] to PDX1
<b>Host species</b>	Rabbit
<b>Specificity</b>	Human and rat species are recommended based on IHC result. This antibody is unsuitable to be used in western blot on human and rat samples.
<b>Tested applications</b>	<b>Suitable for:</b> WB, IHC-P, ICC/IF, IP
<b>Species reactivity</b>	<b>Reacts with:</b> Mouse, Rat, Human
<b>Immunogen</b>	Recombinant full length protein. This information is proprietary to Abcam and/or its suppliers.
<b>Positive control</b>	WB: Mouse Beta-TC-6 whole cell lysate. IHC-P: Mouse, rat and human pancreas tissues. ICC/IF: Beta-TC-6 cells. IP: Beta-TC-6 whole cell lysate.
<b>General notes</b>	<p>This product is a recombinant monoclonal antibody, which offers several advantages including:</p> <ul style="list-style-type: none"><li>- High batch-to-batch consistency and reproducibility</li><li>- Improved sensitivity and specificity</li><li>- Long-term security of supply</li><li>- Animal-free production</li></ul> <p>For more information <a href="#">see here</a>.</p> <p>Our RabMAb<sup>®</sup> technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to <a href="#">RabMAb<sup>®</sup> patents</a>.</p>

### Properties

<b>Form</b>	Liquid
<b>Storage instructions</b>	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term. Avoid freeze / thaw cycle.
<b>Storage buffer</b>	pH: 7.2 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol, 0.05% BSA
<b>Purity</b>	Protein A purified
<b>Clonality</b>	Monoclonal

Clone number                   EPR22002  
 Isotype                            IgG

## Applications

**The Abpromise guarantee**           Our **Abpromise guarantee** covers the use of ab219207 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
WB		1/1000. Detects a band of approximately 46 kDa (predicted molecular weight: 31 kDa). Human and rat species are recommended based on IHC result. This antibody is unsuitable to be used in western blot on human and rat samples.
IHC-P		1/500. Perform heat mediated antigen retrieval before commencing with IHC staining protocol. Perform heat-mediated antigen retrieval using Bond™ Epitope Retrieval Solution 2 (pH 9.0) for 20 minutes.
ICC/IF		1/1000.
IP		1/30.

## 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/XIHbox-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).

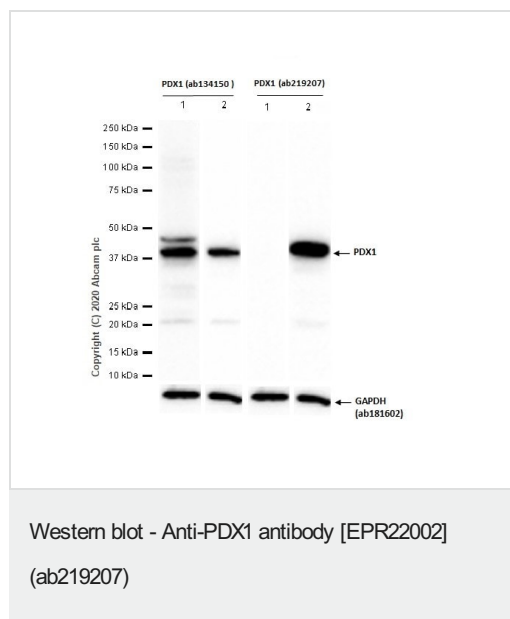
## Post-translational modifications

Phosphorylated by the SAPK2 pathway at high intracellular glucose concentration.

## Cellular localization

Nucleus.

## Images



**All lanes** : Anti-PDX1 antibody at 1/1000 dilution

**Lane 1** : Caco-2 (Human colorectal adenocarcinoma epithelial cell) whole cell lysate

**Lane 2** : Beta-TC-6 (Mouse pancreas insulinoma beta cell) whole cell lysate

Lysates/proteins at 20 µg per lane.

### Secondary

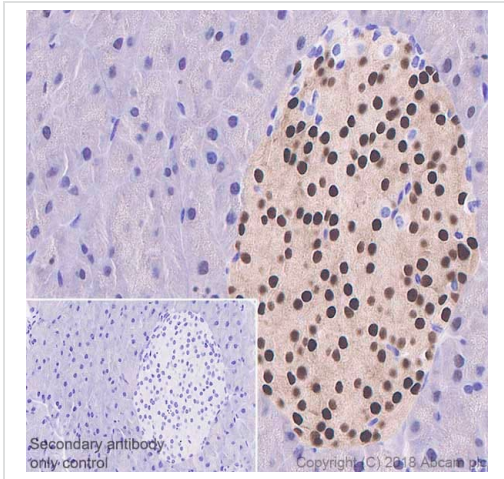
**All lanes** : Goat Anti-Rabbit IgG H&L (HRP) (**ab97051**) at 1/20000 dilution (Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated)

**Predicted band size:** 31 kDa

**Observed band size:** 40 kDa

Lane 1: 60 seconds

Lane 2: 7 seconds



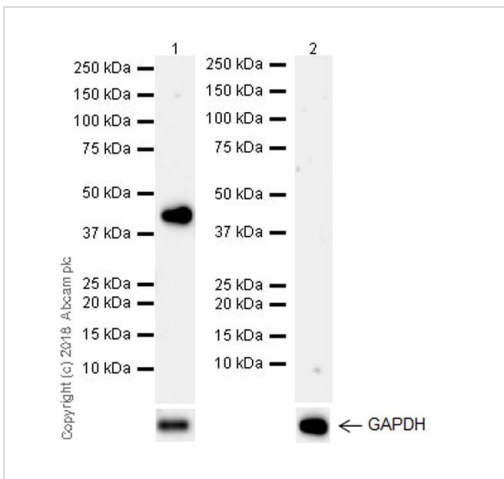
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PDX1 antibody [EPR22002] (ab219207)

Immunohistochemical analysis of paraffin-embedded mouse pancreas tissue labeling PDX1 with ab219207 at 1/500 dilution, followed by Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**) ready to use. Nuclear and weak cytoplasmic staining in mouse pancreatic islet (PMID: 1847781, PMID: 22688334) is observed. Counter stained with hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**) ready to use.

Performed on a Leica Biosystems BOND® RX instrument.

Perform heat mediated antigen retrieval before commencing with IHC staining protocol.



Western blot - Anti-PDX1 antibody [EPR22002] (ab219207)

**All lanes** : Anti-PDX1 antibody [EPR22002] (ab219207) at 1/1000 dilution

**Lane 1** : Beta-TC-6 (mouse pancreas insulinoma beta cell line) whole cell lysate

**Lane 2** : NIH/3T3 (mouse embryo fibroblast cell line) whole cell lysate

Lysates/proteins at 10 µg per lane.

#### Secondary

**All lanes** : Goat Anti-Rabbit IgG H&L (HRP) (**ab97051**) at 1/100000 dilution

Developed using the ECL technique.

**Predicted band size:** 31 kDa

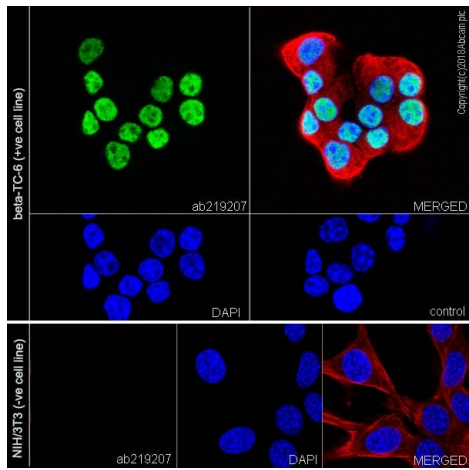
**Observed band size:** 46 kDa

**Exposure time:** 92 seconds

**Blocking/Dilution buffer:** 5% NFDm/TBST.

The molecular mass observed is consistent with what has been described in the literature (PMID: 12488243)

**Negative control:** NIH/3T3 (PMID: 25271154)



Immunocytochemistry/ Immunofluorescence - Anti-PDX1 antibody [EPR22002] (ab219207)

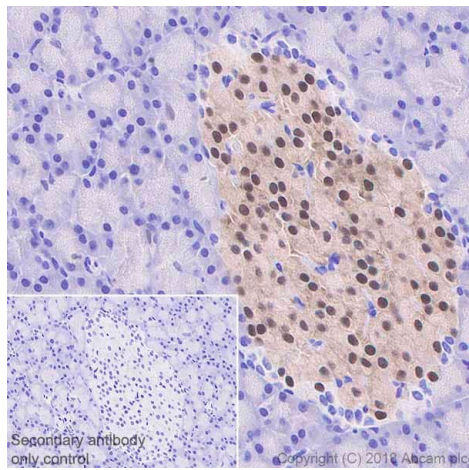
Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized Beta-TC-6 (mouse pancreas insulinoma beta cell line) and NIH/3T3 (mouse embryo fibroblast cell line) cells labeling PDX1 with ab219207 at 1/1000 dilution followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (**ab150077**) secondary antibody at 1/1000 dilution (green).

Confocal image showing nuclear staining in Beta-TC-6 cells.

**Negative control:** NIH/3T3 (PMID: 25271154).

The nuclear counter stain is DAPI (blue). Tubulin is detected with Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) (**ab195889**) (red) at 1/200 dilution.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (**ab150077**) secondary antibody at 1/1000 dilution.



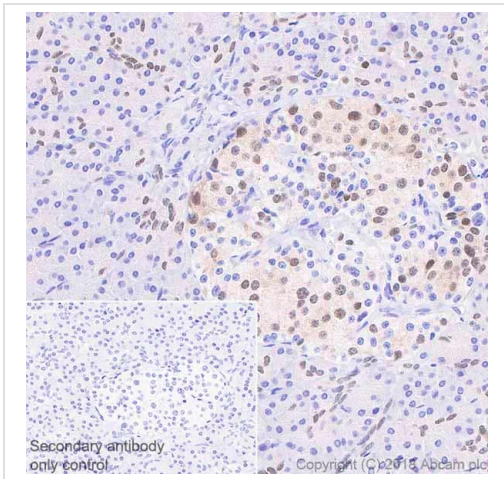
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PDX1 antibody [EPR22002] (ab219207)

Immunohistochemical analysis of paraffin-embedded rat pancreas tissue labeling PDX1 with ab219207 at 1/500 dilution, followed by Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**) ready to use. Nuclear and weak cytoplasmic staining in rat pancreatic islet (PMID: 1847781, PMID: 22688334) is observed. Counter stained with hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**) ready to use.

Performed on a Leica Biosystems BOND® RX instrument.

Perform heat mediated antigen retrieval before commencing with IHC staining protocol.



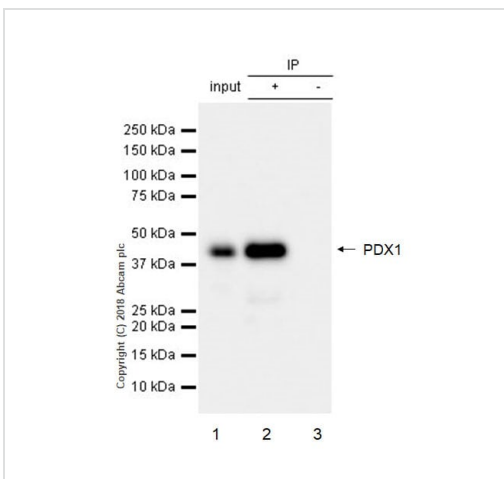
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PDX1 antibody [EPR22002] (ab219207)

Immunohistochemical analysis of paraffin-embedded human pancreas tissue labeling PDX1 with ab219207 at 1/500 dilution, followed by Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**) ready to use. Nuclear and weak cytoplasmic staining on human pancreatic islet and pancreatic acini (PMID: 1847781, PMID: 22688334) is observed. Counter stained with hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**) ready to use.

Performed on a Leica Biosystems BOND® RX instrument.

Perform heat mediated antigen retrieval before commencing with IHC staining protocol.



Immunoprecipitation - Anti-PDX1 antibody [EPR22002] (ab219207)

PDX1 was immunoprecipitated from 0.35 mg of Beta-TC-6 (mouse pancreas insulinoma beta cell line) whole cell lysate with ab219207 at 1/30 dilution. Western blot was performed from the immunoprecipitate using ab219207 at 1/1000 dilution. VeriBlot for IP Detection Reagent (HRP) (**ab131366**), was used for detection at 1/5000 dilution.

**Lane 1:** Beta-TC-6 whole cell lysate 10 µg (Input).

**Lane 2:** ab219207 IP in Beta-TC-6 whole cell lysate.

**Lane 3:** Rabbit monoclonal IgG (**ab172730**) instead of ab219207 in Beta-TC-6 whole cell lysate.

**Blocking/Dilution buffer:** 5% NFDm/TBST.

**Exposure time:** 3 seconds.

The molecular mass observed is consistent with what has been described in the literature (PMID: 12488243).

Why choose a recombinant antibody?

 <p><b>Research with confidence</b> Consistent and reproducible results</p>	 <p><b>Long-term and scalable supply</b> Recombinant technology</p>
 <p><b>Success from the first experiment</b> Confirmed specificity</p>	 <p><b>Ethical standards compliant</b> Animal-free production</p>

Anti-PDX1 antibody [EPR22002] (ab219207)

**Please note:** All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

### Our Abpromise to you: Quality guaranteed and expert technical support

---

- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours
- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit <https://www.abcam.com/abpromise> or contact our technical team.

### Terms and conditions

---

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors