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Rabbit Anti-PDX1 antibody

SL0923R

Product Name	PDX1
Chinese Name	胰岛素促进因子/胰十二指肠同源异型盒蛋白抗体
Alias	Glucose sensitive factor; Glucose-sensitive factor; GSF; IDX 1; IDX-1; IDX1; Insulin promoter factor 1; insulin promoter factor 1 homeodomain transcription factor; insulin upstream factor 1; IPF 1; IPF-1; IPF1; Islet/duodenum homeobox 1; Islet/duodenum homeobox-1; IUF 1; IUF-1; IUF1; MODY4; Pancreas/duodenum homeobox 1; Pancreas/duodenum homeobox protein 1; pancreatic and duodenal homeobox P; PDX 1; PDX-1; PDX1_HUMAN; Somatostatin transactivating factor 1; Somatostatin-transactivating factor 1; STF 1; STF-1; STF1.
Research Area	Cell biology Neurobiology Growth factors and hormones transcriptional regulatory factor Endocrinopathy
Immunogen Species	Rabbit
Clonality	Polyclonal
React Species	Rat (predicted:Human,Mouse,Chicken,Pig)
Applications	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500 （Paraffin sections need antigen repair） not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Theoretical molecular weight	30kDa
Cellular localization	The nucleus cytoplasmic
Form	Liquid
Concentration	1mg/ml
immunogen	KLH conjugated synthetic peptide derived from human PDX1: 188-284/284
Lsotype	IgG
Purification	affinity purified by Protein A
Buffer Solution	1M TBS(pH7.4) with 1% BSA, 3% Proclin300 and 50% Glycerol.
Storage	Shipped at 4℃. Store at -20 ℃ for one year. Avoid repeated freeze/thaw cycles.

Attention

This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.

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Product Detail

The protein encoded by this gene is a transcriptional activator of several genes, including insulin, somatostatin, glucokinase, islet amyloid polypeptide, and glucose transporter type 2. The encoded nuclear protein is involved in the early development of the pancreas and plays a major role in glucose-dependent regulation of insulin gene expression. Defects in this gene are a cause of pancreatic agenesis, which can lead to early-onset insulin-dependent diabetes mellitus (IDDM), as well as maturity onset diabetes of the young type 4 (MODY4). [provided by RefSeq, Aug 2017]

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.

Subunit:
Interacts with the basic helix-loop-helix domains of TCF3(E47) and NEUROD1 and with HMG-I(Y). Interacts with SPOP. Interacts with the methyltransferase SETD7.

Subcellular Location:
Nucleus.

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

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

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.

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

SWISS:
P52946

Gene ID:
3651

Database links:

Entrez Gene: 538927 Cow

Entrez Gene: 493994 Dog

Entrez Gene: 3651 Human

Entrez Gene: 18609 Mouse

Entrez Gene: 29535 Rat

Omim: 600733 Human

SwissProt: P52945 Human

SwissProt: P52946 Mouse

SwissProt: P52947 Rat

Unigene: 32938 Human

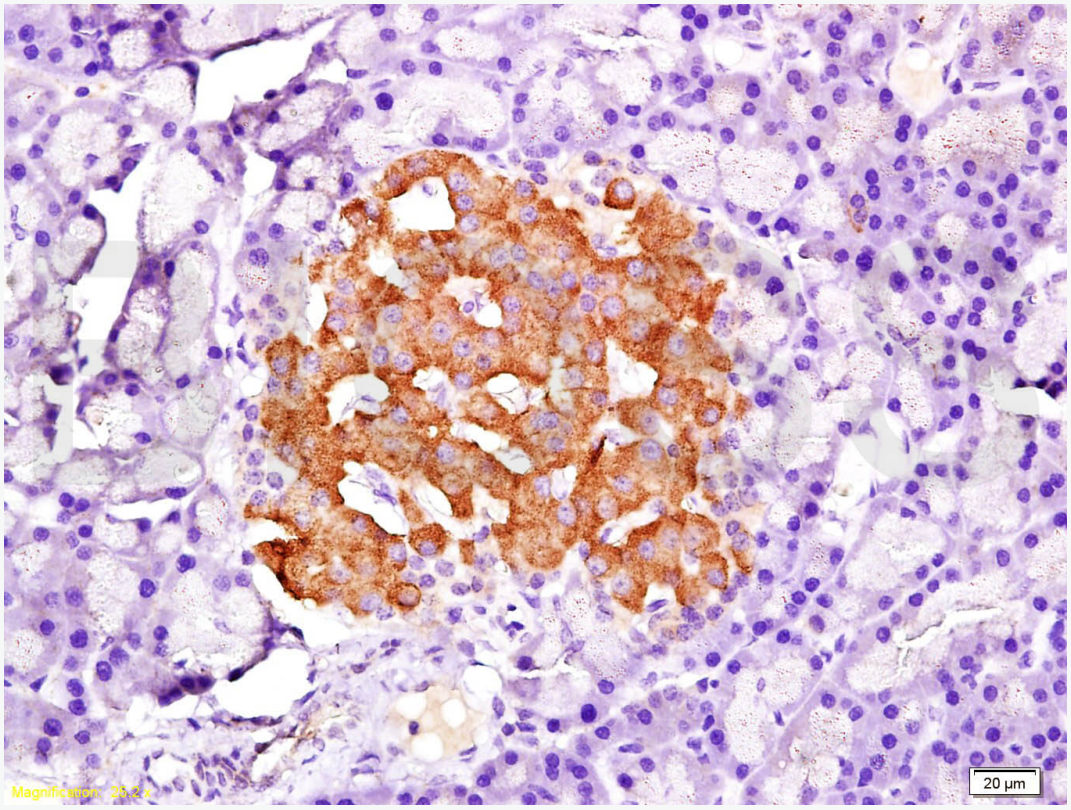
Unigene: 389714 Mouse

Unigene: 54603 Rat

PDX1 是一种同源框转录因子-即胰十二指肠同源异型盒基因，又称 IPF-1(胰岛素促进因子)、IDX-1、IUF-1。
近年来，科学家们对 PDX1 从不同的角度进行了卓有成效的研究。有学者认为；PDX1 是胰腺发育及胰岛素基因转录表达的关键性转录因子，即决定于胰腺前体细胞向 B、A、D 细胞的分化。

还有学者认为：PDX1 对于肠内胚层背胰芽和腹胰芽的生长、分化起重要作用，早期胰腺表达的 PDX-1 对胰腺上皮的形成和分化是必需的。

Product Picture



Tissue/cell: rat pancreas tissue; 4% Paraformaldehyde-fixed and paraffin-embedded;

Antigen retrieval: citrate buffer (1M, pH 6.0), Boiling bathing for 15min; Block endogenous peroxidase by 3% Hydrogen peroxide for 30min; Blocking buffer (normal goat serum,C-0005) at 37°C for 20 min;

Incubation: Anti-PDX-1 Polyclonal Antibody, Unconjugated(SL0923R) 1:200, overnight at 4°C, followed by conjugation to the secondary antibody(SP-0023) and DAB(C-0010) staining

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