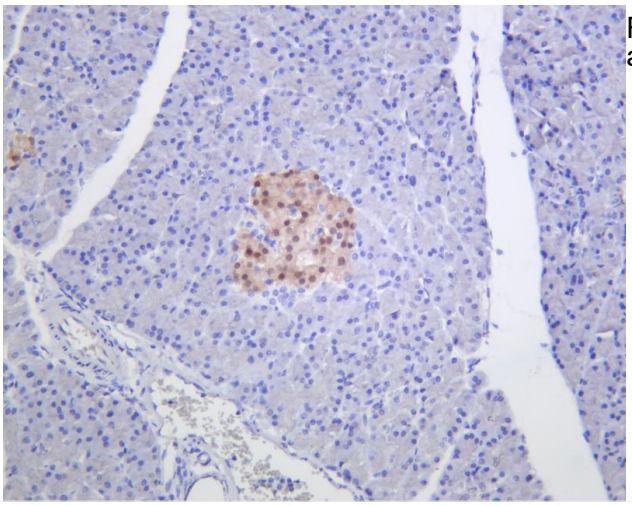
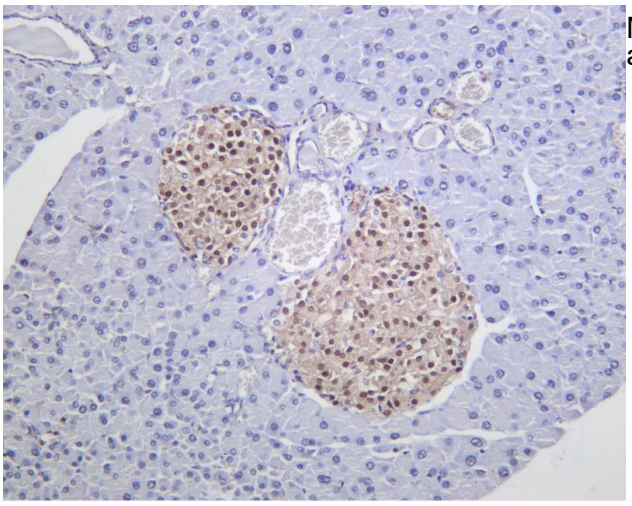
PDX1 Rabbit mAb

Catalog No	YP-rAb-17275
Isotype	IgG
Reactivity	Human,Mouse,Rat
Applications	WB,IHC,IF,IP,ELISA
Gene Name	PDX1
Protein Name	Pancreas/duodenum homeobox protein 1
Purification Process	Protein A
Specificity	Endogenous
Formulation	PBS, 50% glycerol, 0.05% Proclin 300, 0.05%BSA
Source	Monoclonal, Rabbit,IgG
Dilution	IHC 1:100-1:500; WB 1:500-1:20000; IF 1:200-1:1000; ELISA 1:5000-1:20000; IP 1:50-1:200; Note: For IHC, we suggest antigen retrieval with TE buffer pH 9.0
Concentration	0.5 mg/ml
Purity	≥90%
Storage Stability	-15° C to -25° C/1 year(Do not lower than -25° C)
Synonyms	PDX1 ; IPF1 ; Pancreas/duodenum homeobox protein 1 ; PDX-1 ; Glucose-sensitive factor ; GSF ; Insulin promoter factor 1 ; IPF-1 ; Insulin upstream factor 1 ; IUF-1 ; Islet/duodenum homeobox-1 ; IDX-1 ; Somatostatin-transactivating factor 1 ; STF-1
Observed Band	42kD
Calculated Molecular Weight	31kD
Cell Pathway	Nucleus. Cytoplasm, cytosol .
Tissue Specificity	Duodenum and pancreas (Langerhans islet beta cells and small subsets of endocrine non-beta-cells, at low levels in acinar cells).
Function	Disease:Defects in PDX1 are a cause of pancreatic agenesis [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.,Disease:Defects in PDX1 are the cause of maturity onset diabetes noninsulin-dependent diabetes mellitus (NIDDM) [MIM:125853]; also known as diabetes mellitus type II.,Disease:Defects in PDX1 are the cause of maturity onset diabetes of the young type 4 (MODY4) [MIM:606392]; also symbolized MODY-4.

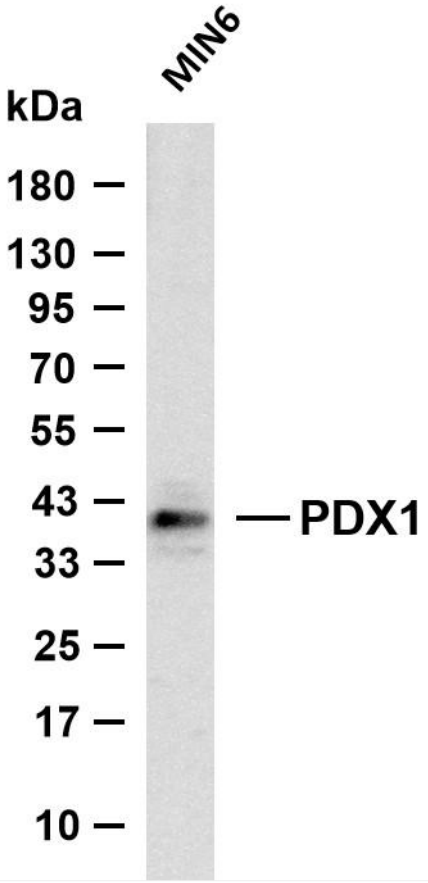
	MODY [MIM:606391] is a form of diabetes mellitus characterized by an autosomal dominant mode of inheritance, age of onset of 25 years or younger and a primary defect in insulin secretion.,Domain:The Antp-type hexapeptide mediates heterodimerization with PBX on a regulatory element of the somatostatin promoter.,Domain: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).,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.,miscellaneous:According to PubMed:16141209, it may be methylated by SETD7 in vitro. However, the relevance of methylation is unsure in vivo.,PTM:Phosphorylated by the SAPK2 pathway at high intracellular glucose concentration.,similarity:Belongs to the Antp homeobox family. IPF1/XlHbox-8 subfamily.,similarity:Contains 1 homeobox DNA-binding domain.,subunit:Interacts with the basic helix-loop-helix domains of TCF3(E47) and NEUROD1 and with HMG-I(Y). Interacts with SPOP (By similarity). Interacts with the methyltransferase SETD7.,tissue specificity:Duodenum and pancreas (Langerhans islet beta cells and small subsets of endocrine non-beta-cells, at low levels in acinar cells).,
Background	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 (NIDDM), as well as maturity onset diabetes of the young type 4 (MODY4). [provided by RefSeq, Jul 2008],
matters needing attention	Avoid repeated freezing and thawing!
Usage suggestions	This product can be used in immunological reaction related experiments. For more information, please consult technical personnel.



Rat pancreas was stained with anti-PDX1 Rabbit antibody



Mouse pancreas was stained with anti-PDX1 Rabbit antibody



Various whole cell lysates were separated by 4-20% SDS-PAGE, and the membrane was blotted with anti-PDX1 antibody. The HRP-conjugated Goat anti-Rabbit IgG (H + L) antibody was used to detect the antibody. Lane 1: MIN6 Predicted band size: 31kDa Observed band size: 42kDa