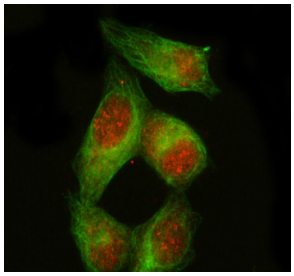
Pancreatic and Duodenal Homeobox 1 Antibody / IPF1 Antibody (FY13210)

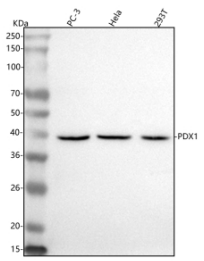
Catalog No.	Formulation	Size
FY13210	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

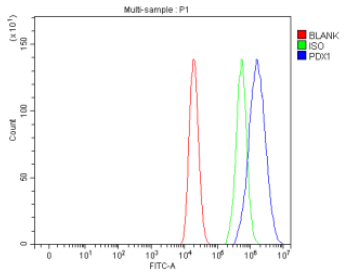
Availability	1-2 days
Species Reactivity	Human
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	P52945
Localization	Nuclear
Applications	Western Blot: 0.25-0.5ug/ml Immunocytochemistry: 5ug/ml Immunofluorescence: 5ug/ml Flow cytometry: 1-3ug/million cells ELISA: 0.1-0.5ug/ml
Limitations	This Pancreatic and Duodenal Homeobox 1 Antibody / IPF1 Antibody is available for research use only.



Pancreatic and Duodenal Homeobox 1 Antibody Detection in Human HeLa Cells by IF. Immunofluorescence staining of human HeLa cells using Pancreatic and Duodenal Homeobox 1 Antibody shows red PDX1-associated fluorescence concentrated predominantly within the nuclear region, while beta tubulin is visualized in green throughout the cytoplasmic microtubule network. Cells underwent enzyme antigen retrieval for 15 min before blocking with 10% goat serum and incubation with 5 ug/ml rabbit anti-PDX1 antibody overnight at 4oC. The predominantly nuclear PDX1 signal is consistent with its function as a transcription factor and demonstrates cellular detection using this IPF1 Antibody.



Pancreatic and Duodenal Homeobox 1 Antibody Detection in PC-3, HeLa and 293T Cells by WB. Western blot testing with Pancreatic and Duodenal Homeobox 1 Antibody shows a single prominent band at approximately 40 kDa in human PC-3 (lane 1), HeLa (lane 2), and 293T (lane 3) cell lysates. Although the calculated molecular weight of PDX1 is approximately 31 kDa, migration in the 40-46 kDa range has been associated with post-translational modifications including phosphorylation and SUMOylation. The clean, consistent bands across all three lysates demonstrate detection of endogenous PDX1 using this IPF1 Antibody.



Pancreatic and Duodenal Homeobox 1 Antibody Detection in Human Caco-2 Colorectal Adenocarcinoma Cells by FACS. Flow cytometry analysis of fixed and permeabilized human Caco-2 colorectal adenocarcinoma cells using Pancreatic and Duodenal Homeobox 1 Antibody shows a clear rightward fluorescence shift in the PDX1-stained population (blue) relative to the isotype control (green) and unlabeled cells (red). Cells were incubated with antibody at 1 ug/million cells for 30 min at 20oC following fixation, permeabilization, and blocking with normal goat serum. The distinct population shift demonstrates intracellular PDX1 detection using this IPF1 Antibody.

Description

Pancreatic and Duodenal Homeobox 1 Antibody recognizes PDX1, a homeodomain transcription factor with essential roles in pancreatic development, beta-cell differentiation, and regulation of insulin expression. PDX1 is also known as insulin promoter factor 1 (IPF1) and functions as a transcriptional regulator of genes involved in pancreatic endocrine identity and glucose-responsive hormone production. Its activity is particularly important for establishing and maintaining the differentiated state of insulin-producing pancreatic beta cells.

During embryonic development, PDX1 is expressed in pancreatic progenitor cells that contribute to endocrine, exocrine, and ductal lineages. Changes in PDX1 expression help coordinate pancreatic differentiation, while continued expression in mature beta cells supports insulin production and glucose homeostasis. PDX1 binds regulatory elements within the insulin gene and cooperates with other transcription factors to regulate beta-cell-specific gene expression. Its predominantly nuclear localization is consistent with its direct role in transcriptional regulation.

PDX1 is extensively studied in diabetes, pancreatic development, beta-cell regeneration, and cellular reprogramming. Reduced or disrupted PDX1 activity can impair beta-cell function and insulin production, while pathogenic variants are associated with pancreatic developmental abnormalities and forms of monogenic diabetes. PDX1 is also investigated in pancreatic cancer and endocrine biology, where changes in lineage-associated transcriptional programs can provide insight into cellular differentiation and disease progression.

This IPF1 Antibody is a rabbit polyclonal generated against recombinant human PDX1 corresponding to amino acids 1-145. The antibody provides a polyclonal reagent for investigating PDX1 expression and complements monoclonal antibodies targeting this important regulator of pancreatic endocrine and beta-cell biology. NSJ Bioreagents supplies this antibody for research use only.

A Pancreatic and Duodenal Homeobox 1 Antibody can be used to investigate pancreatic development, beta-cell identity and differentiation, insulin gene regulation, glucose homeostasis, diabetes biology, and pancreatic disease.

For a monoclonal PDX1 antibody with additional protein microarray validation, see our PDX1 Antibody PCRP-PDX1-2C11 / Insulin Promoter Factor 1 Antibody page.

Application Notes

Optimal dilution of the Pancreatic and Duodenal Homeobox 1 Antibody / IPF1 Antibody should be determined by the researcher.

Immunogen

E.coli-derived human PDX1 recombinant protein (Position: M1-E145) was used as the immunogen for the PDX1 antibody.

Storage

After reconstitution, the PDX1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Alternate Names

PDX1 antibody, IPF1 antibody, insulin promoter factor 1 antibody, pancreatic-duodenal homeobox 1 antibody, STF-1 antibody, IUF1 antibody, GSF antibody

Copyright © NSJ Bioreagents. All rights reserved.