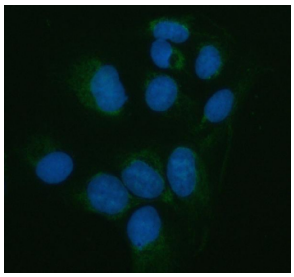
PNLIP Antibody / Pancreatic Lipase (FY12082)

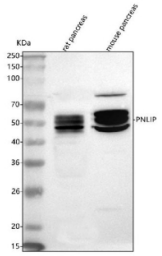
Catalog No.	Formulation	Size
FY12082	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

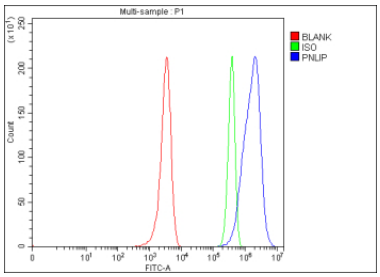
Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	P16233
Applications	Western Blot : 0.25-0.5ug/ml Immunocytochemistry : 5ug/ml Immunofluorescence : 5ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This PNLIP antibody is available for research use only.



Immunofluorescent staining of PNLIP using anti-PNLIP antibody (green). PNLIP was detected in an immunocytochemical section of U2OS cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5 ug/ml rabbit anti-PNLIP antibody overnight at 4oC. DyLight 488 Conjugated Goat Anti-Rabbit IgG was used as secondary antibody at 1:500 dilution and incubated for 30 minutes at 37oC. The section was counterstained with DAPI (blue). Visualize using a fluorescence microscope and filter sets appropriate for the label used.



Western blot analysis of Pancreatic Lipase using anti-PNLIP antibody. Lane 1: rat pancreas tissue lysates, Lane 2: mouse pancreas tissue lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-PNLIP antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using enhanced chemiluminescent. The expected band size for PNLIP is at 51 kDa and the protein is often observed as several closely migrating glycoforms. This is more pronounced in rodent samples than human samples.



Flow Cytometry analysis of U251 cells using anti-PNLIP antibody. Overlay histogram showing U251 cells stained with (Blue line). The cells were fixed with 4% paraformaldehyde and blocked with 10% normal goat serum. And then incubated with rabbit anti-PNLIP antibody (1 ug/million cells) for 30 min at 20oC. DyLight 488 conjugated goat anti-rabbit IgG (5-10 ug/million cells) was used as secondary antibody for 30 minutes at 20oC. Isotype control antibody (Green line) was rabbit IgG (1 ug/million cells) used under the same conditions. Unlabelled sample (Red line) was also used as a control.

Description

PNLIP antibody detects Pancreatic lipase, encoded by the PNLIP gene. Pancreatic lipase is a secreted digestive enzyme essential for hydrolyzing dietary triglycerides into free fatty acids and monoglycerides in the small intestine. PNLIP antibody provides researchers with a critical reagent for studying lipid digestion, gastrointestinal biology, and disorders of fat absorption.

Pancreatic lipase is secreted by the exocrine pancreas into the duodenum, where it functions in concert with bile salts and colipase to emulsify and degrade triglycerides. Research using PNLIP antibody has shown that the enzyme specifically catalyzes the hydrolysis of ester bonds at the sn-1 and sn-3 positions of triglycerides, leaving monoglycerides for absorption. Its central role in fat metabolism underscores its importance for nutritional physiology.

Studies with PNLIP antibody have revealed that deficiency in pancreatic lipase causes steatorrhea and fat malabsorption syndromes, leading to poor nutrient uptake, weight loss, and deficiency of fat-soluble vitamins. Mutations in the PNLIP gene have been linked to congenital pancreatic lipase deficiency, a rare autosomal recessive disorder. In addition, reduced activity is observed in chronic pancreatitis and cystic fibrosis, making pancreatic lipase an important biomarker of pancreatic function.

Beyond digestion, research using PNLIP antibody has highlighted its potential role in metabolic disease. Altered pancreatic lipase activity has been associated with obesity, insulin resistance, and dyslipidemia. Pharmacological inhibitors of pancreatic lipase, such as orlistat, are clinically used to reduce fat absorption in obesity management, emphasizing the therapeutic relevance of this enzyme.

PNLIP antibody is widely used in immunohistochemistry, western blotting, and ELISA. Immunohistochemistry highlights expression in pancreatic acinar cells, western blotting quantifies enzyme levels in pancreatic extracts, and ELISA measures circulating lipase in serum. These applications make PNLIP antibody indispensable for digestive and metabolic research.

By supplying validated PNLIP antibody reagents, NSJ Bioreagents supports studies into lipid metabolism, pancreatic disease, and digestion. Detection of Pancreatic lipase provides researchers with insight into how lipolytic enzymes regulate nutrient absorption and metabolic health.

Application Notes

Optimal dilution of the PNLIP antibody should be determined by the researcher.

Immunogen

E.coli-derived human Pancreatic Lipase/PNLIP recombinant protein (Position: I36-D404) was used as the immunogen for the PNLIP antibody.

Storage

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