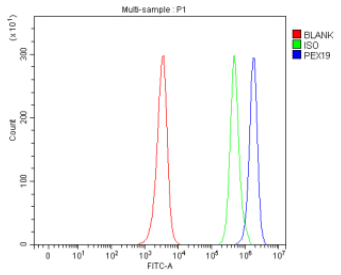
PEX19 Antibody / Peroxisomal biogenesis factor 19 (FY12969)

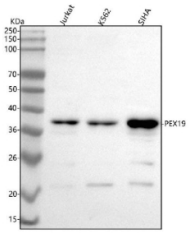
Catalog No.	Formulation	Size
FY12969	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

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	P40855
Applications	Western Blot : 0.25-0.5ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This PEX19 antibody is available for research use only.



Flow Cytometry analysis of JK cells using anti-PEX19 antibody. Overlay histogram showing JK cells stained with (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-PEX19 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.



Western blot analysis of PEX19 using anti-PEX19 antibody. Lane 1: human Jurkat whole cell lysates, Lane 2: human K562 whole cell lysates, Lane 3: human SiHa whole cell 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-PEX19 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. A band is detected at ~38 kDa, running higher than the ~33 kDa prediction. The upward shift is consistent with known anomalous migration and PTMs (farnesylation and phosphorylation); faint lower bands represent minor proteolytic fragments.

Description

PEX19 antibody detects Peroxisomal biogenesis factor 19, a cytosolic chaperone and receptor required for peroxisome membrane assembly. The UniProt recommended name is Peroxisomal biogenesis factor 19 (PEX19). This protein is essential for the import and insertion of peroxisomal membrane proteins (PMPs), ensuring proper peroxisome formation, maintenance, and function.

Functionally, PEX19 antibody recognizes a 299-amino-acid protein that binds newly synthesized PMPs in the cytosol, shielding them from aggregation and misfolding. PEX19 delivers these PMPs to the peroxisomal membrane by interacting with the docking protein PEX3, which anchors them into the membrane bilayer. This process is vital for peroxisomal membrane protein biogenesis, division, and inheritance. PEX19 functions both as a chaperone and an import receptor, playing a dual role in organelle biogenesis.

The PEX19 gene is located on chromosome 1q22 and encodes a soluble protein that cycles between cytosolic and peroxisomal compartments. It contains a C-terminal farnesylation motif that anchors it transiently to membranes, enhancing interaction with peroxisomal receptors. Mutations in PEX19 cause peroxisome biogenesis disorder type 14B (Zellweger spectrum disorder), resulting in defective peroxisome formation and metabolic dysfunction characterized by accumulation of very-long-chain fatty acids and bile acid intermediates.

In healthy cells, PEX19 interacts with multiple peroxins, including PEX3 and PEX16, forming a network that ensures correct targeting and integration of PMPs. Its function is tightly coordinated with matrix protein import, supporting peroxisomal maintenance and proliferation. Beyond peroxisome assembly, PEX19 may influence lipid metabolism and antioxidant defense through its role in peroxisomal homeostasis. Dysregulation of PEX19 expression contributes to oxidative stress and metabolic imbalance.

PEX19 antibody is used in cell biology, biochemistry, and metabolism research to study peroxisomal formation and dynamics. It supports applications such as immunoblotting, immunofluorescence, and organelle isolation to evaluate peroxisome abundance, protein import, and morphology. The antibody is especially valuable for identifying peroxisomal defects in metabolic and neurodegenerative diseases. In hepatocytes and fibroblasts, PEX19 localization provides a sensitive indicator of peroxisome assembly status.

Structurally, PEX19 contains multiple tetratricopeptide repeat (TPR)-like motifs that mediate binding to PMPs. Its N-terminal region recognizes hydrophobic transmembrane segments, while the C-terminal farnesylation site facilitates membrane targeting. NSJ Bioreagents provides PEX19 antibody reagents validated for use in peroxisome biogenesis, organelle dynamics, and lipid metabolism research.

Application Notes

Optimal dilution of the PEX19 antibody should be determined by the researcher.

Immunogen

E.coli-derived human PEX19 recombinant protein (Position: Q51-A269) was used as the immunogen for the PEX19 antibody.

Storage

After reconstitution, the PEX19 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.