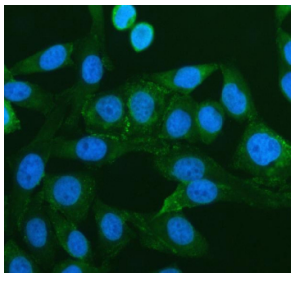
PEX16 Antibody / Peroxisomal Biogenesis Factor 16 Antibody (FY13456)

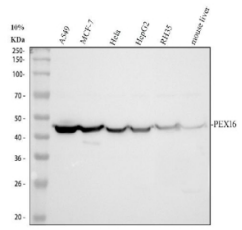
Catalog No.	Formulation	Size
FY13456	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

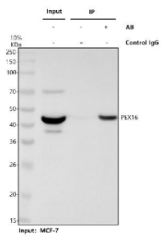
Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl and 0.2 mg Na2HPO4.
UniProt	Q9Y5Y5
Localization	Peroxisome
Applications	Western blot: 0.25-0.5ug/ml Immunoprecipitation: 2ug per 500ug of lysate Immunofluorescence: 5ug/ml
Limitations	This PEX16 Antibody / Peroxisomal Biogenesis Factor 16 Antibody is available for research use only.



PEX16 Antibody by IF. Immunofluorescence staining of human HeLa cells using PEX16 antibody. Green fluorescence demonstrates cytoplasmic immunoreactivity with a granular distribution, consistent with the localization of peroxisomal biogenesis factor 16 to intracellular membranes. Nuclei were counterstained with DAPI (blue). Cells underwent enzymatic antigen retrieval and blocking with normal goat serum before overnight incubation with the primary antibody at 4oC.



PEX16 Antibody by WB. Western blot analysis of peroxisomal biogenesis factor 16 expression in six samples: lane 1, human A549 cells; lane 2, human MCF-7 cells; lane 3, human HeLa cells; lane 4, human HepG2 cells; lane 5, rat RH35 cells; and lane 6, mouse liver tissue. The rabbit polyclonal PEX16 antibody detects a prominent band migrating at approximately 42 kDa, compared with the predicted molecular weight of approximately 39 kDa. This modest difference may reflect anomalous electrophoretic migration associated with the membrane-bound properties of the protein. Band intensity varies between samples, with minimal nonspecific background observed.



PEX16 Antibody by IP. Immunoprecipitation of peroxisomal biogenesis factor 16 from human MCF-7 whole-cell lysate using rabbit polyclonal PEX16 antibody, followed by western blot analysis. Lane 1 contains the MCF-7 lysate input, lane 2 represents the rabbit control IgG immunoprecipitation, and lane 3 shows immunoprecipitation with PEX16 antibody. A distinct band at approximately 42 kDa is detected in the input and antibody IP lanes, while the control IgG lane lacks a corresponding prominent signal. The observed molecular weight is slightly higher than the predicted 39 kDa.

Description

PEX16 Antibody targets peroxisomal biogenesis factor 16, a membrane-associated protein encoded by the PEX16 gene that plays an essential role in the formation, maintenance, and proliferation of peroxisomes. These specialized organelles participate in several metabolic pathways, including very-long-chain fatty acid oxidation, plasmalogen biosynthesis, and reactive oxygen species metabolism. PEX16 belongs to the peroxin family of proteins responsible for coordinating peroxisomal assembly and maintaining functional organelle populations within cells.

Peroxisomal biogenesis factor 16 is an integral membrane protein involved in the early stages of peroxisomal membrane formation. It participates in the recruitment and insertion of other peroxisomal membrane proteins, particularly through functional interactions with PEX3 and PEX19. These proteins cooperate to establish the membrane architecture necessary for subsequent import of peroxisomal matrix enzymes. Unlike peroxins that directly recognize matrix protein targeting signals, PEX16 primarily supports membrane organization and the establishment of functional peroxisomal compartments.

PEX16 also contributes to the formation of new peroxisomes through pathways involving the endoplasmic reticulum. In mammalian cells, PEX16 can facilitate the recruitment of PEX3 to membrane structures that subsequently contribute to peroxisome development. This relationship helps explain how cells establish peroxisomal membranes and replenish organelle populations when existing peroxisomes are depleted. The balance between de novo formation, growth, and division of existing peroxisomes is important for maintaining cellular metabolic capacity.

Mutations in PEX16 are associated with peroxisome biogenesis disorder 8A, a condition within the Zellweger spectrum of inherited metabolic disorders. Defective PEX16 function can disrupt peroxisomal membrane assembly, impairing the localization of essential metabolic enzymes and compromising multiple peroxisome-dependent pathways. Clinical manifestations of Zellweger spectrum disorders vary in severity and may include neurological abnormalities, developmental impairment, hepatic dysfunction, and disturbances in lipid metabolism. These associations highlight the importance of PEX16 in normal cellular development and metabolic homeostasis.

Beyond inherited metabolic disease, PEX16 is relevant to investigations of organelle dynamics, intracellular membrane trafficking, and cellular responses to metabolic stress. Changes in peroxisome abundance or organization can influence lipid homeostasis and interactions between peroxisomes, mitochondria, and the endoplasmic reticulum. Understanding the mechanisms governing peroxisomal membrane assembly therefore provides insight into broader processes of organelle maintenance and cellular adaptation. A PEX16 Antibody from NSJ Bioreagents provides a research reagent for investigating peroxisomal biogenesis factor 16 and its role in peroxisome formation and cellular metabolism.

Explore additional antibodies for studying organelle biogenesis, intracellular membrane organization, and other fundamental cellular processes in our Cell Biology Antibodies collection.

Application Notes

Optimal dilution of the PEX16 Antibody / Peroxisomal Biogenesis Factor 16 Antibody should be determined by the researcher.

Immunogen

A synthetic peptide corresponding to a sequence at the N-terminus of human Peroxisomal biogenesis factor 16 was used as the immunogen for the PEX16 Antibody.

Storage

After reconstitution, the PEX16 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

Peroxisomal Biogenesis Factor 16 antibody, Peroxin 16 antibody, Peroxisome Assembly Protein 16 antibody

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