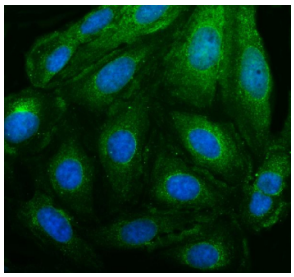
PEX14 Antibody / Peroxisomal biogenesis factor 14 (FY13455)

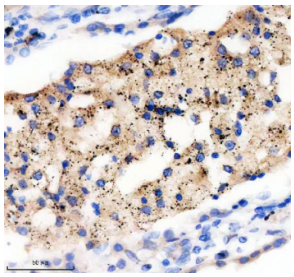
Catalog No.	Formulation	Size
FY13455	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

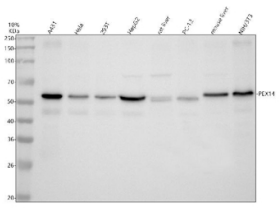
Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl and 0.2 mg Na2HPO4.
UniProt	O75381
Localization	Peroxisome
Applications	Western Blot : 0.25-0.5ug/ml Immunohistochemistry : 2-5ug/ml Immunofluorescence : 5ug/ml
Limitations	This PEX14 antibody is available for research use only.



Immunofluorescence analysis of Peroxisomal biogenesis factor 14 using PEX14 antibody. PEX14 expression was examined in cultured U2OS cells. Enzymatic antigen retrieval was performed prior to staining. Cells were blocked with normal goat serum and incubated with PEX14 antibody (green) overnight at 4C. Immunoreactivity shows a cytoplasmic, punctate staining pattern consistent with peroxisomal membranes, and nuclei were counterstained with DAPI (blue).



Immunohistochemistry analysis of Peroxisomal biogenesis factor 14 using PEX14 antibody. PEX14 expression was examined in a paraffin-embedded section of human lung cancer tissue. Heat-mediated antigen retrieval was performed using EDTA buffer (pH 8.0). Tissue sections were blocked with normal goat serum and incubated with PEX14 antibody overnight at 4C. Immunoreactivity is observed predominantly in tumor epithelial cells with cytoplasmic and punctate staining patterns consistent with peroxisomal localization. Detection was visualized using an HRP-based detection system with DAB chromogen, followed by hematoxylin counterstaining.



Western blot analysis of PEX14 using PEX14 antibody. Protein lysates from human A431 cells (Lane 1), human HeLa cells (Lane 2), human 293T cells (Lane 3), human HepG2 cells (Lane 4), rat liver tissue (Lane 5), rat PC-12 cells (Lane 6), mouse liver tissue (Lane 7), and mouse NIH/3T3 cells (Lane 8) were resolved by SDS-PAGE under reducing conditions and transferred to a nitrocellulose membrane. PEX14 was detected as a band migrating at approximately 55â€“60 kDa, despite a predicted molecular weight of approximately 41 kDa, consistent with known anomalous SDS-PAGE migration of Peroxisomal biogenesis factor 14 due to low-complexity regions and phosphorylation. Detection was performed using an HRP-based secondary antibody and chemiluminescent substrate.

Description

PEX14 antibody targets Peroxisomal biogenesis factor 14, encoded by the PEX14 gene. Peroxisomal biogenesis factor 14 is an integral peroxisomal membrane protein that functions as a core docking component of the peroxisomal matrix protein import machinery. It serves as a binding site for cytosolic import receptors, including PEX5, enabling delivery of peroxisomal targeting signal-containing proteins to the peroxisome membrane.

Functionally, Peroxisomal biogenesis factor 14 acts as a central scaffold within the peroxisomal translocation complex. By interacting directly with PEX5-cargo complexes, PEX14 facilitates the initial stages of matrix protein import and coordinates assembly of the transient import pore. A PEX14 antibody supports studies focused on peroxisomal protein trafficking, membrane-associated import mechanisms, and organelle maintenance.

PEX14 is localized predominantly to the peroxisomal membrane, distinguishing it from mobile import receptors that shuttle between compartments. Its membrane-embedded position allows it to organize interactions between cytosolic receptors and other peroxins required for translocation. Through this role, Peroxisomal biogenesis factor 14 contributes to efficient import of enzymes essential for peroxisomal metabolic pathways, including lipid oxidation and redox regulation.

From a disease-related perspective, disruption of PEX14 function impairs peroxisomal matrix protein import and has been linked to peroxisome biogenesis disorders. Loss of functional PEX14 compromises peroxisomal enzyme content and organelle activity, leading to widespread metabolic consequences. These findings underscore the importance of PEX14 as a structural and functional hub in peroxisome assembly and maintenance.

At the molecular level, Peroxisomal biogenesis factor 14 contains conserved domains that mediate interactions with import receptors and other peroxisomal membrane proteins. Its apparent behavior in biochemical assays reflects its membrane-associated nature and interaction state rather than changes in protein size or sequence. PEX14 antibody reagents enable investigation of peroxisomal membrane organization and protein import pathways, with NSJ Bioreagents providing reagents intended for research use.

Application Notes

Optimal dilution of the PEX14 antibody should be determined by the researcher.

Immunogen

A synthetic peptide corresponding to a sequence at the N-terminus of human Peroxisomal biogenesis factor 14 was used as the immunogen for the PEX14 antibody.

Storage

After reconstitution, the PEX14 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.