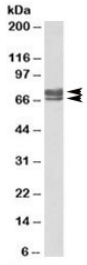
PEX5 Antibody (R35299)

Catalog No.	Formulation	Size
R35299-100UG	0.5 mg/ml in 1X TBS, pH7.3, with 0.5% BSA (US sourced) and 0.02% sodium azide	100 ug

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human
Format	Antigen affinity purified
Host	Goat
Clonality	Polyclonal (goat origin)
Isotype	Goat Ig
Purity	Antigen affinity
Gene ID	5830
Applications	Western Blot : 0.1-0.3ug/ml ELISA (peptide) LOD : 1:128000
Limitations	This PEX5 antibody is available for research use only.



Western blot testing of human kidney lysate with PEX5 antibody at 0.1ug/ml. In this test, isoform a (654 AA) and isoform c (602 AA) are detected.

Description

PEX5 antibody targets Peroxisomal biogenesis factor 5, encoded by the PEX5 gene. Peroxisomal biogenesis factor 5 functions as a mobile cytosolic receptor that recognizes peroxisomal matrix proteins containing a C-terminal peroxisomal targeting signal 1 and escorts them to the peroxisomal membrane. This shuttling activity places PEX5 at the center of peroxisomal matrix protein import rather than static organelle assembly.

Unlike membrane-bound transporters, Peroxisomal biogenesis factor 5 cycles dynamically between the cytoplasm and

the peroxisome. After binding cargo proteins in the cytosol, PEX5 docks at the peroxisomal membrane through interactions with docking peroxins, enabling translocation of matrix proteins into the organelle. Following cargo delivery, PEX5 is released and recycled back to the cytosol, allowing repeated rounds of import. A PEX5 antibody supports studies examining this import cycle and the coordination of peroxisomal trafficking events.

At the cellular level, PEX5 displays predominantly cytoplasmic localization with transient peroxisomal association, reflecting its role as a transport receptor rather than a structural peroxisomal component. This dynamic localization allows PEX5 to respond rapidly to changes in cellular metabolic demand by adjusting the efficiency of peroxisomal enzyme import. Through this mechanism, Peroxisomal biogenesis factor 5 contributes indirectly to lipid metabolism, reactive oxygen species handling, and other peroxisome-dependent pathways.

Alterations in PEX5 function disrupt the delivery of essential peroxisomal enzymes, leading to impaired organelle activity and metabolic imbalance. Such disruptions have been investigated in the context of peroxisome biogenesis disorders and broader studies of organelle dysfunction. These findings emphasize the importance of PEX5-mediated transport in maintaining peroxisomal competence across diverse tissues and developmental stages.

At the molecular level, Peroxisomal biogenesis factor 5 contains conserved regions that mediate cargo recognition, membrane docking, and receptor recycling. Its apparent behavior in biochemical assays can vary depending on import activity and cellular context without changes to its primary amino acid sequence. PEX5 antibody reagents enable detailed investigation of peroxisomal protein import mechanisms and intracellular transport dynamics, with NSJ Bioreagents providing reagents intended for research use.

Application Notes

Optimal dilution of the PEX5 antibody should be determined by the researcher.

Immunogen

Amino acids QHTASDFVAKVDDPK were used as the immunogen for this PEX5 antibody. This sequence is common to isoforms a-d.

Storage

Aliquot and store the PEX5 antibody at -20oC.

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