SANTA CRUZ BIOTECHNOLOGY, INC.

Peroxin 5 (50): sc-136030

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Peroxisomes are single-membrane bounds organelles present in virtually all eukaryotic cells. They are involved in numerous catabolic and anabolic pathways, including β-oxidation of very long chain fatty acids, metabolism of hydrogen peroxide, plasmalogen biosynthesis, and bile acid synthesis. The peroxin gene family, which includes more than 20 members, is required for peroxisome biogenesis. Two members of this family, Peroxin 5 (Pex5) and Peroxin 7 (Pex7), are receptors for proteins that contain the peroxisome targeting signal 1 (PTS1) and 2 (PTS2), respectively, and shuttle these proteins from the cytosol to the peroxisome. Peroxin 5, also designated PTS1 receptor, is expressed as two isoforms, Pex5L and Pex5S. Pex5L transports PTS1 and Pex7-PTS2 cargo complexes to the initial Pex5 docking site, Pex14, while Pex5S transports only PTS1 cargoes. Pex5 and Pex7 also require either direct or indirect interaction with Peroxin 13 (Pex13) for proper import into peroxisomes. Mutations in the peroxin genes result in peroxisome biogenesis disorders (PBDs). Defects in the Pex5 gene are linked to Zellweger syndrome (cerebro-hapato-renal syndrome) of complementation group 2 (CG2), the most severe form of PBDs. Zellweger syndrome is characterized by abnormal neuronal migration in the central nervous system and severe neurologic dysfunction, which leads to early death.

REFERENCES

1. Girzalsky, W., et al. 1999. Involvement of Pex13p in Pex14p localization and peroxisomal targeting signal 2-dependent protein import into peroxisomes. J. Cell Biol. 144: 1151-1162.
2. Gartner, J. 2000. Organelle disease: peroxisomal disorders. Eur. J. Pediatr. 159: S236-S239.
3. Collins, C.S., et al. 2000. The peroxisome biogenesis factors Pex4p, Pex22p, Pex1p and Pex6p act in the terminal steps of peroxisomal matrix protein import. Mol. Cell. Biol. 20: 7516-7526.
4. Fujiki, Y. 2000. Peroxisome biogenesis and peroxisome biogenesis disorders. FEBS Lett. 476: 42-46.
5. Dodt, G., et al. 2001. Domain mapping of human Pex5 reveals functional and structural similarities to *Saccharomyces cerevisiae* Pex18p and Pex21p. J. Biol. Chem. 276: 41769-41781.
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CHROMOSOMAL LOCATION

Genetic locus: Pex5 (mouse) mapping to 6 F2.

SOURCE

Peroxin 5 (50) is a mouse monoclonal antibody raised against amino acids 246-361 of Peroxin 5 of mouse origin.

PRODUCT

Each vial contains 50 µg IgG_1 in 0.5 ml of PBS with < 0.1% sodium azide, 0.1% gelatin, 20% glycerol and 0.04% stabilizer protein.

APPLICATIONS

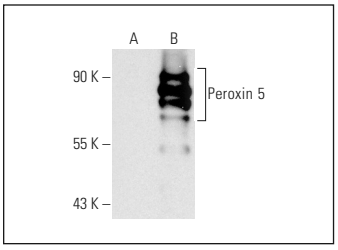
Peroxin 5 (50) is recommended for detection of Peroxin 5 of mouse origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for Peroxin 5 siRNA (m): sc-40824, Peroxin 5 shRNA Plasmid (m): sc-40824-SH and Peroxin 5 shRNA (m) Lentiviral Particles: sc-40824-V.

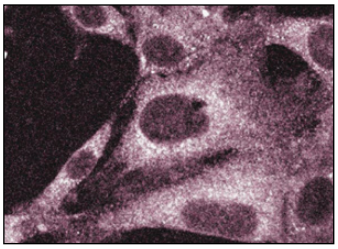
Molecular Weight of Peroxin 5: 80 kDa.

Positive Controls: mouse liver extract: sc-2256 or Peroxin 5 (m): 293T Lysate: sc-110429.

DATA



Peroxin 5 (50): sc-136030. Western blot analysis of Peroxin 5 expression in non-transfected: sc-117752 (**A**) and mouse Peroxin 5 transfected: sc-110429 (**B**) 293T whole cell lysates.



Peroxin 5 (50): sc-136030. Immunofluorescence staining of NIH/3T3 cells showing cytoplasmic localization.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures. Not for resale.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.