

Peroxin 13 (D-5): sc-271477

BACKGROUND

Peroxisomes are single-membrane bound 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. Pex13 encodes an SH3-containing peroxisomal membrane protein that binds to sequences lacking a PXXP motif, which includes Pex5. Pex13 has high expression in liver and testis. Pex13 dysfunction is also implicated in some peroxisome biogenesis disorders.

REFERENCES

1. Bjorkman, J., et al. 1998. Genomic structure of PEX13, a candidate peroxisome biogenesis disorder gene. *Genomics* 54: 521-528.
2. 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.

CHROMOSOMAL LOCATION

Genetic locus: PEX13 (human) mapping to 2p16.1; Pex13 (mouse) mapping to 11 A3.2.

SOURCE

Peroxin 13 (D-5) is a mouse monoclonal antibody raised against amino acids 254-403 mapping at the C-terminus of Peroxin 13 of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Peroxin 13 (D-5) is available conjugated to agarose (sc-271477 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271477 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271477 PE), fluorescein (sc-271477 FITC), Alexa Fluor® 488 (sc-271477 AF488), Alexa Fluor® 546 (sc-271477 AF546), Alexa Fluor® 594 (sc-271477 AF594) or Alexa Fluor® 647 (sc-271477 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271477 AF680) or Alexa Fluor® 790 (sc-271477 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

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

APPLICATIONS

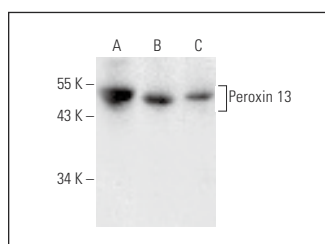
Peroxin 13 (D-5) is recommended for detection of Peroxin 13 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Peroxin 13 siRNA (h): sc-40825, Peroxin 13 siRNA (m): sc-40826, Peroxin 13 shRNA Plasmid (h): sc-40825-SH, Peroxin 13 shRNA Plasmid (m): sc-40826-SH, Peroxin 13 shRNA (h) Lentiviral Particles: sc-40825-V and Peroxin 13 shRNA (m) Lentiviral Particles: sc-40826-V.

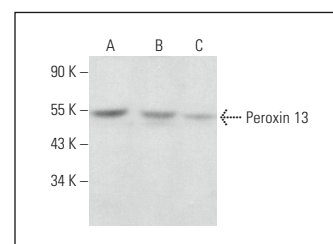
Molecular Weight of Peroxin 13: 45 kDa.

Positive Controls: H4 cell lysate: sc-2408, K-562 whole cell lysate: sc-2203 or HeLa whole cell lysate: sc-2200.

DATA



Peroxin 13 (D-5): sc-271477. Western blot analysis of Peroxin 13 expression in K-562 (A), H4 (B) and HeLa (C) whole cell lysates.



Peroxin 13 (D-5): sc-271477. Western blot analysis of Peroxin 13 expression in NIH/3T3 (A), Sol8 (B) and L6 (C) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Lee, M.Y., et al. 2017. Peroxisomal protein PEX13 functions in selective autophagy. *EMBO Rep.* 18: 48-60.
2. Park, W.Y., et al. 2021. PEX13 is required for thermogenesis of white adipose tissue in cold-induced mice. *Biochim. Biophys. Acta Mol. Cell Biol. Lipids* 1867: 159046.
3. Aleksic, M., et al. 2021. Hypothyroidism intensifies both canonic and the *de novo* pathway of peroxisomal biogenesis in rat brown adipocytes in a time-dependent manner. *Cells* 10: 2248.
4. Braccia, C., et al. 2022. CFTR rescue by lumacaftor (VX-809) induces an extensive reorganization of mitochondria in the cystic fibrosis bronchial epithelium. *Cells* 11: 1938.
5. Borgia, P., et al. 2022. Genotype-phenotype correlations and disease mechanisms in PEX13-related Zellweger spectrum disorders. *Orphanet J. Rare Dis.* 17: 286.

RESEARCH USE

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