

Peroxin 13 (S-20): sc-23195

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.
3. Gartner, J. 2000. Organelle disease: peroxisomal disorders. *Eur. J. Pediatr.* 159 Suppl 3: S236-239.
4. Barnett, P., et al. 2000. The peroxisomal membrane protein Pex13p shows a novel mode of SH3 interaction. *EMBO J.* 19: 6382-6391.
5. 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.
6. Fujiki, Y. 2000. Peroxisome biogenesis and peroxisome biogenesis disorders. *FEBS Lett.* 476: 42-46.
7. 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.
8. Brosius, U. et al. 2002. Cellular and molecular aspects of Zellweger syndrome and other peroxisome biogenesis disorders. *Cell. Mol. Life Sci.* 59: 1058-1069.
9. Otera, H., et al. 2002. Peroxisomal targeting signal receptor Pex5p interacts with cargoes and import machinery components in a spatiotemporally differentiated manner: conserved Pex5p WXXXF/Y motifs are critical for matrix protein import. *Mol. Cell. Biol.* 22: 1639-1655.

CHROMOSOMAL LOCATION

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

SOURCE

Peroxin 13 (S-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Peroxin 13 of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-23195 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Peroxin 13 (S-20) is recommended for detection of Peroxin 13 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

Peroxin 13 (S-20) is also recommended for detection of Peroxin 13 in additional species, including equine, canine, bovine, porcine and avian.

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.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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.

PROTOCOLS

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