

Peroxin 5 (G-20): sc-23190

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. 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.

CHROMOSOMAL LOCATION

Genetic locus: PEX5 (human) mapping to 12p13.31; Pex5 (mouse) mapping to 6 F2.

SOURCE

Peroxin 5 (G-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Peroxin 5 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-23190 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

Peroxin 5 (G-20) is recommended for detection of Peroxin 5 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

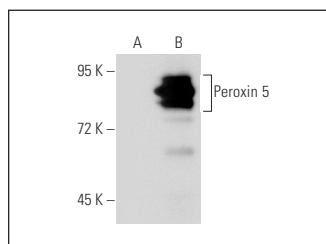
Peroxin 5 (G-20) is also recommended for detection of Peroxin 5 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Peroxin 5 siRNA (h): sc-40823, Peroxin 5 siRNA (m): sc-40824, Peroxin 5 shRNA Plasmid (h): sc-40823-SH, Peroxin 5 shRNA Plasmid (m): sc-40824-SH, Peroxin 5 shRNA (h) Lentiviral Particles: sc-40823-V and Peroxin 5 shRNA (m) Lentiviral Particles: sc-40824-V.

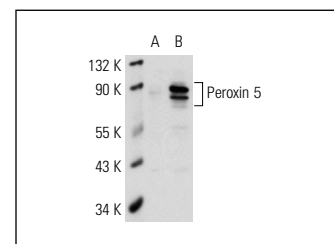
Molecular Weight of Peroxin 5: 80 kDa.

Positive Controls: mouse liver extract: sc-2256, Peroxin 5 (m): 293 Lysate: sc-110710 or Peroxin 5 (h): 293 Lysate: sc-111159.

DATA



Peroxin 5 (G-20): sc-23190. Western blot analysis of Peroxin 5 expression in non-transfected: sc-110760 (A) and human Peroxin 5 transfected: sc-111159 (B) 293 whole cell lysates.



Peroxin 5 (G-20): sc-23190. Western blot analysis of Peroxin 5 expression in non-transfected: sc-110760 (A) and mouse Peroxin 5 transfected: sc-110710 (B) 293 whole cell lysates.

SELECT PRODUCT CITATIONS

1. Ahlemeyer, B., et al. 2007. Differential expression of peroxisomal matrix and membrane proteins during postnatal development of mouse brain. *J. Comp. Neurol.* 505: 1-17.

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.



Try **Peroxin 5 (B-3): sc-137103** or **Peroxin 5 (F-9): sc-137135**, our highly recommended monoclonal alternatives to Peroxin 5 (G-20).