SANTA CRUZ BIOTECHNOLOGY, INC.

Peroxin 16 (H-4): sc-398189

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. Peroxin 16, also known as PEX16 or peroxisomal biogenesis factor 16, is a 336 amino acid multi-membrane protein that has a critical role in the biogenesis of peroxisomes. Defects in the gene encoding Peroxin 16 are the cause of multiple peroxisome-related disorders, including Zellweger syndrome (ZWS), neonatal adrenoleukodystrophy (NALD), infantile Refsum disease (IRD), classical rhizomelic chondrodysplasia punctata (RCDP) and peroxisome biogenesis disorder complementation group 9 (PBD-CG9).

REFERENCES

1. Suzuki, Y., Shimozawa, N. and Orii, T. 1993. Clinical and molecular aspects of peroxisome-deficient disorders. Nippon Rinsho 51: 2353-2358.
2. Fujiki, Y. 1994. Human peroxisome-deficient disorders and pathogenic gene. Rinsho Shinkeigaku 34: 1219-1221.
3. Moser, A.B., et al. 1995. Phenotype of patients with peroxisomal disorders subdivided into sixteen complementation groups. J. Pediatr. 127: 13-22.
4. Distel, B., et al. 1996. A unified nomenclature for peroxisome biogenesis factors. J. Cell Biol. 135: 1-3.
5. Shimozawa, N., et al. 2002. A novel aberrant splicing mutation of the PEX16 gene in two patients with Zellweger syndrome. Biochem. Biophys. Res. Commun. 292: 109-112.
6. Karnik, S.K. and Trelease, R.N. 2005. Arabidopsis Peroxin 16 coexists at steady state in peroxisomes and endoplasmic reticulum. Plant Physiol. 138: 1967-1981.

CHROMOSOMAL LOCATION

Genetic locus: PEX16 (human) mapping to 11p11.2; Pex16 (mouse) mapping to 2 E1.

SOURCE

Peroxin 16 (H-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 281-306 within an internal region of Peroxin 16 of human origin.

PRODUCT

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-398189 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

Peroxin 16 (H-4) is recommended for detection of Peroxin 16 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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 16 (H-4) is also recommended for detection of Peroxin 16 in additional species, including equine and canine.

Suitable for use as control antibody for Peroxin 16 siRNA (h): sc-96993, Peroxin 16 siRNA (m): sc-152173, Peroxin 16 shRNA Plasmid (h): sc-96993-SH, Peroxin 16 shRNA Plasmid (m): sc-152173-SH, Peroxin 16 shRNA (h) Lentiviral Particles: sc-96993-V and Peroxin 16 shRNA (m) Lentiviral Particles: sc-152173-V.

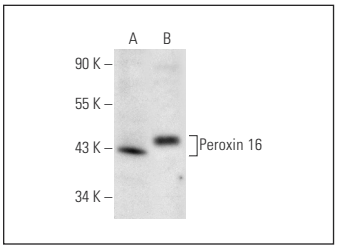
Molecular Weight of Peroxin 16: 42 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227 or human platelet extract: sc-363773.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Peroxin 16 (H-4): sc-398189. Western blot analysis of Peroxin 16 expression in Hep G2 whole cell lysate (**A**) and human platelet extract (**B**).

SELECT PRODUCT CITATIONS

1. 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.

RESEARCH USE

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