SANTA CRUZ BIOTECHNOLOGY, INC.

Peroxin 16 (T-14): sc-131057

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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., Rasmussen, M., Naidu, S., Watkins, P.A., McGuinness, M., Hajra, A.K., Chen, G., Raymond, G., Liu, A. and Gordon, D. 1995. Phenotype of patients with peroxisomal disorders subdivided into sixteen complementation groups. J. Pediatr. 127: 13-22.
4. Distel, B., Erdmann, R., Gould, S.J., Blobel, G., Crane, D.I., Cregg, J.M., Dodt, G., Fujiki, Y., Goodman, J.M., Just, W.W., Kiel, J.A., Kunau, W.H., Lazarow, P.B., Mannaerts, G.P., Moser, H.W., Osumi, T., Rachubinski, R.A., Roscher, A., Subramani, S., Tabak, H.F., et al. 1996. A unified nomenclature for peroxisome biogenesis factors. J. Cell Biol. 135: 1-3.
5. Shimozawa, N., Nagase, T., Takemoto, Y., Suzuki, Y., Fujiki, Y., Wanders, R.J. and Kondo, N. 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.
7. Mullen, R.T. and Trelease, R.N. 2006. The ER-peroxisome connection in plants: development of the "ER semi-autonomous peroxisome maturation and replication" model for plant peroxisome biogenesis. Biochim. Biophys. Acta 1763: 1655-1668.
8. Kim, P.K., Mullen, R.T., Schumann, U. and Lippincott-Schwartz, J. 2006. The origin and maintenance of mammalian peroxisomes involves a *de novo* Pex16-dependent pathway from the ER. J. Cell Biol. 173: 521-532.

CHROMOSOMAL LOCATION

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

SOURCE

Peroxin 16 (T-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Peroxin 16 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-131057 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Peroxin 16 (T-14) is recommended for detection of Peroxin 16 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); non cross-reactive with other Peroxin family members.

Peroxin 16 (T-14) is also recommended for detection of Peroxin 16 in additional species, including canine, bovine and porcine.

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.

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.