SANTA CRUZ BIOTECHNOLOGY, INC.

Peroxin 7 (N-20): sc-23191

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Peroxisomes are single-membrane bounds 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 7, also designated PTS2 receptor, requires interaction with Peroxin 13 (Pex13) and Peroxin 14 (Pex14) for proper peroxisomal transport. Mutations in the Peroxin genes result in peroxisome biogenesis disorders (PBDs). Defects in the Pex7 gene, which maps to chromosome 6q23.3 in human, are linked to rhizomelic chondrodysplasia punctata (RCDP) of complementation group 11 (CG11). RCDP is an autosomal recessive disease characterized by proximal limb shortening, severely disturbed endochondrial bone formation, and mental retardation.

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. Purdue, P.E., et al. 1999. Rhizomelic chondrodysplasia punctata, a peroxisomal biogenesis disorder caused by defects in Pex7p, a peroxisomal protein import receptor: a minireview. Neurochem. Res. 24: 581-586.
3. Braverman, N., et al. 2000. PEX7 gene structure, alternative transcripts, and evidence for a founder haplotype for the frequent RCDP allele, L292ter. Genomics 63: 181-192.
4. Gartner, J. 2000. Organelle disease: peroxisomal disorders. Eur. J. Pediatr. 159 Suppl. 3: S236-S239.
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. 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.
7. Brosius, U., et al. 2002. Cellular and molecular aspects of Zellweger syndrome and other peroxisome biogenesis disorders. Cell. Mol. Life Sci. 59: 1058-1069.

CHROMOSOMAL LOCATION

Genetic locus: PEX7 (human) mapping to 6q23.3; Pex7 (mouse) mapping to 10 A3.

SOURCE

Peroxin 7 (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Peroxin 7 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-23191 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Peroxin 7 (N-20) is recommended for detection of Peroxin 7 of human and, to a lesser extent, mouse and rat 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 7 (N-20) is also recommended for detection of Peroxin 7 in additional species, including canine.

Suitable for use as control antibody for Peroxin 7 siRNA (h): sc-44931, Peroxin 7 siRNA (m): sc-44932, Peroxin 7 shRNA Plasmid (h): sc-44931-SH, Peroxin 7 shRNA Plasmid (m): sc-44932-SH, Peroxin 7 shRNA (h) Lentiviral Particles: sc-44931-V and Peroxin 7 shRNA (m) Lentiviral Particles: sc-44932-V.

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.