SANTA CRUZ BIOTECHNOLOGY, INC.

Peroxin 5 (B-3): sc-137103

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 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 cargos. 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.

CHROMOSOMAL LOCATION

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

SOURCE

Peroxin 5 (B-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 211-239 within an internal region of Peroxin 5 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Peroxin 5 (B-3) is available conjugated to agarose (sc-137103 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-137103 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-137103 PE), fluorescein (sc-137103 FITC), Alexa Fluor® 488 (sc-137103 AF488), Alexa Fluor® 546 (sc-137103 AF546), Alexa Fluor® 594 (sc-137103 AF594) or Alexa Fluor® 647 (sc-137103 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-137103 AF680) or Alexa Fluor® 790 (sc-137103 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-137103 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 5 (B-3) is recommended for detection of Peroxin 5 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

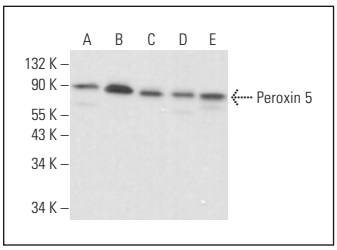
Peroxin 5 (B-3) is also recommended for detection of Peroxin 5 in additional species, including equine and porcine.

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.

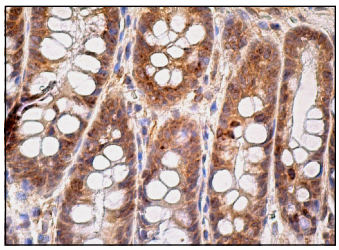
Molecular Weight of Peroxin 5: 80 kDa.

Positive Controls: PC-12 cell lysate: sc-2250, F9 cell lysate: sc-2245 or MCF7 whole cell lysate: sc-2206.

DATA



Peroxin 5 (B-3): sc-137103. Western blot analysis of Peroxin 5 expression in PC-12 (**A**), F9 (**B**), MCF7 (**C**), MDA-MB-231 (**D**) and BT-20 (**E**) whole cell lysates.



Peroxin 5 (B-3): sc-137103. Immunoperoxidase staining of formalin fixed, paraffin-embedded human rectum tissue showing cytoplasmic and nuclear staining of glandular cells.

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.

PROTOCOLS

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