

# Pxmp2 (K-15): sc-243892

## BACKGROUND

Peroxisomes are subcellular organelles with important functions in lipid metabolism that are found in virtually all eucaryotic cells. The peroxisomal membrane contains a number of integral and peripheral membrane proteins involved in the import of peroxisomal matrix proteins and the transport of metabolites across the membrane. Pxmp2 (Peroxisomal membrane protein 2), also known as PMP22, is a 195 amino acid multi-pass membrane protein that belongs to the peroxisomal membrane protein PXMP2/4 family. The Pxmp2 protein interacts with both Peroxin 19 and Siva proteins. The Peroxin 19 protein binds multiple peroxisomal membrane proteins (PMPs), is predominantly cytoplasmic, and is required for peroxisome membrane synthesis. Pxmp2 is the most abundant peroxisomal membrane protein in higher eukaryotes. Pxmp2's expression is tissue-specific with highest levels of expression in liver, kidney and heart tissue. It has been suggested that Pxmp2 is involved in pore-forming activity and may contribute to the broad permeability of the peroxisomal membrane. Disruption of the mouse Pxmp2 gene leads to partial restriction of peroxisomal membrane permeability to solutes *in vitro* and *in vivo*. The Pxmp2 gene is conserved in chimpanzee, dog, cow, mouse, rat, zebrafish, fruit fly and mosquito, and maps to human chromosome 12q24.33.

## REFERENCES

- Miyawaki, T., Sohma, O., Suzuki, Y. and Takashima, S. 1995. Developmental immunohistochemistry of the 22 kDa peroxisomal membrane protein in the human brain. *Brain Res.* 700: 285-288.
- Sacksteder, K.A., Jones, J.M., South, S.T., Li, X., Liu, Y. and Gould, S.J. 2000. PEX19 binds multiple peroxisomal membrane proteins, is predominantly cytoplasmic, and is required for peroxisome membrane synthesis. *J. Cell. Biol.* 148: 931-944.
- Lüers, G.H., Otte, D.M., Subramani, S. and Franz, T. 2001. Genomic organization, chromosomal localization and tissue specific expression of the murine Pxmp2 gene encoding the 22 kDa peroxisomal membrane protein (Pmp22). *Gene* 272: 45-50.
- Brosius, U., Dehmel, T. and Gärtner, J. 2002. Two different targeting signals direct human peroxisomal membrane protein 22 to peroxisomes. *J. Biol. Chem.* 277: 774-784.
- Otte, D.M., Schwaab, U. and Lüers, G.H. 2003. The Pxmp2 and Pole1 genes are linked by a bidirectional promoter in an evolutionary conserved fashion. *Gene* 313: 119-126.
- Nestler, M., Martin, U., Hortschansky, P., Saluz, H.P., Henke, A. and Munder, T. 2006. The zinc containing pro-apoptotic protein siva interacts with the peroxisomal membrane protein pmp22. *Mol. Cell. Biochem.* 287: 147-155.
- Rokka, A., Antonenkov, V.D., Soininen, R., Immonen, H.L., Pirilä, P.L., Bergmann, U., Sormunen, R.T., Weckström, M., Benz, R. and Hiltunen, J.K. 2009. Pxmp2 is a channel-forming protein in Mammalian peroxisomal membrane. *PLoS ONE* 4: e5090.

## STORAGE

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

## CHROMOSOMAL LOCATION

Genetic locus: PXMP2 (human) mapping to 12q24.33.

## SOURCE

Pxmp2 (K-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Pxmp2 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-243892 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

Pxmp2 (K-15) is recommended for detection of Pxmp2 of 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).

Suitable for use as control antibody for Pxmp2 siRNA (h): sc-95951, Pxmp2 shRNA Plasmid (h): sc-95951-SH and Pxmp2 shRNA (h) Lentiviral Particles: sc-95951-V.

Molecular Weight of Pxmp2: 22 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.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.