SANTA CRUZ BIOTECHNOLOGY, INC.

PMP22 (B-6): sc-515280

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

PLP (myelin proteolipid protein or lipophilin) is a major constituent of myelin. The two isoforms of the myelin proteolipid protein, PLP and DM20, are very hydrophobic integral membrane proteins that account for about half of the protein content of adult CNS myelin. A mutation in the gene which encodes PLP is linked to Pelizaeus-Merzbacher disease (PMD), a chronic infantile type of diffuse cerebral sclerosis. The gene which encodes PLP maps to human chromosome Xq22.2. The glycoprotein zero (also designated P-zero or myelin peripheral protein) is the major structural protein of peripheral myelin, accounting for more than 50% of the protein present in the sheath of peripheral nerves. Zero is an integral membrane glycoprotein whose expression is restricted to Schwann cells. The gene which encodes zero maps to human chromosome 1q22. PMP22 (peripheral myelin protein 22) is a growth-regulated membrane protein which is expressed by Schwann cells and is localized mainly in compact peripheral nervous system myelin. The gene which encodes PMP22 maps to human chromosome 17p12.

REFERENCES

1. Ford, F.R. 1960. Diseases of the nervous system in infancy, childhood and adolescence. Springfield, Ill: Charles C Thomas (4th ed.), 831-833.
2. Willard, H.F. and Riordan, J.R. 1985. Assignment of the gene for myelin proteolipid protein to the X chromosome: implications for X-linked myelin disorders. Science 230: 940-942.
3. Mattei, M.G., et al. 1986. The gene encoding for the major brain proteolipid (PLP) maps on the q22 band of the human X chromosome. Hum. Genet. 72: 352-353.
4. Suter, U., et al. 1992. A leucine-to-proline mutation in the putative first transmembrane domain of the 22 kDa peripheral myelin protein in the trembler-J mouse. Proc. Natl. Acad. Sci. USA 89: 4382-4386.

CHROMOSOMAL LOCATION

Genetic locus: PMP22 (human) mapping to 17p12; Pmp22 (mouse) mapping to 11 B3.

SOURCE

PMP22 (B-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 110-134 near the C-terminus of PMP22 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 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-515280 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

PMP22 (B-6) is recommended for detection of PMP22 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).

Suitable for use as control antibody for PMP22 siRNA (h): sc-42036, PMP22 siRNA (m): sc-42037, PMP22 shRNA Plasmid (h): sc-42036-SH, PMP22 shRNA Plasmid (m): sc-42037-SH, PMP22 shRNA (h) Lentiviral Particles: sc-42036-V and PMP22 shRNA (m) Lentiviral Particles: sc-42037-V.

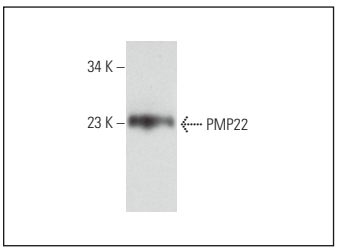
Molecular Weight of PMP22: 22 kDa.

Positive Controls: rat sciatic nerve extract: sc-395023.

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 A/G PLUS-Agarose: sc-2003 (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



PMP22 (B-6): sc-515280. Western blot analysis of PMP22 expression in rat sciatic nerve tissue extract.

SELECT PRODUCT CITATIONS

1. Zhou, Y., et al. 2019. PMP22 regulates cholesterol trafficking and ABCA1-mediated cholesterol efflux. J. Neurosci. 39: 5404-5418.
2. Zhou, Y., et al. 2020. Subcellular diversion of cholesterol by gain- and loss-of-function mutations in PMP22. Glia 68: 2300-2315.

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.