SANTA CRUZ BIOTECHNOLOGY, INC.

PMP22 (G-6): sc-515199

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 1q23.3. 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.

CHROMOSOMAL LOCATION

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

SOURCE

PMP22 (G-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 111-134 near the C-terminus of PMP22 of human origin.

PRODUCT

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

PMP22 (G-6) is available conjugated to agarose (sc-515199 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-515199 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515199 PE), fluorescein (sc-515199 FITC), Alexa Fluor® 488 (sc-515199 AF488), Alexa Fluor® 546 (sc-515199 AF546), Alexa Fluor® 594 (sc-515199 AF594) or Alexa Fluor® 647 (sc-515199 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515199 AF680) or Alexa Fluor® 790 (sc-515199 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-515199 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.

PROTOCOLS

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

APPLICATIONS

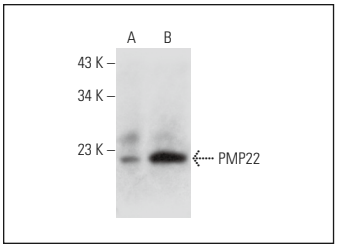
PMP22 (G-6) is recommended for detection of PMP22 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) 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: mouse brain extract: sc-2253 or human brain extract: sc-364375.

DATA



PMP22 (G-6): sc-515199. Western blot analysis of PMP22 expression in mouse brain (**A**) and human brain (**B**) tissue extracts.

SELECT PRODUCT CITATIONS

1. Chen, Y., et al. 2016. GSK3β inhibition accelerates axon debris clearance and new axon remyelination. Am. J. Transl. Res. 8: 5410-5420.
2. Shang, X.Y., et al. 2021. ARID1A deficiency weakens BRG1-RAD21 interaction that jeopardizes chromatin compactness and drives liver cancer cell metastasis. Cell Death Dis. 12: 990.
3. Jiang, L.T., et al. 2022. Aberrant neuregulin 1/ErbB signaling in Charcot-Marie-Tooth type 4D disease. Mol. Cell. Biol. 42: e0055921.
4. Gong, X., et al. 2023. Jatrorrhizine ameliorates Schwann cell myelination via inhibiting HDAC3 ability to recruit Atxn2l for regulating the NRG1-ErbB2-PI3K-AKT pathway in diabetic peripheral neuropathy mice. Phytother. Res. 37: 645-657.
5. Yoshioka, Y., et al. 2023. AAV-mediated editing of PMP22 rescues Charcot-Marie-Tooth disease type 1A features in patient-derived iPS Schwann cells. Commun. Med. 3: 170.
6. Sun, Y., et al. 2024. Electrical aligned polyurethane nerve guidance conduit modulates macrophage polarization and facilitates immunoregulatory peripheral nerve regeneration. J. Nanobiotechnology 22: 244.

RESEARCH USE

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