

PLP (N-18): sc-18528

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 17p11.2.

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 q-22 band of the human X chromosome. *Hum. Genet.* 72: 352-353.
4. Patel, P.I., et al. 1992. The gene for the peripheral myelin protein PMP-22 is a candidate for Charcot-Marie-Tooth disease type 1A. *Nat. Genet.* 1: 159-165.
5. 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.

SOURCE

PLP (N-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of PLP 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-18528 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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 or our catalog for detailed protocols and support products.

APPLICATIONS

PLP (N-18) is recommended for detection of PLP of broad 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), 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).

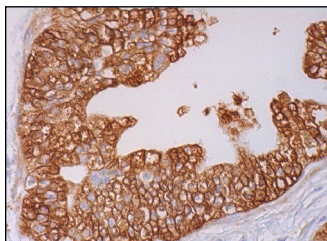
PLP (N-18) is also recommended for detection of PLP in additional species, including equine, canine, bovine, porcine and avian.

Molecular Weight of PLP: 30 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. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



PLP (N-18): sc-18528. Immunoperoxidase staining of formalin fixed, paraffin-embedded human epididymis tissue showing membrane and cytoplasmic staining of glandular cells.

RESEARCH USE

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

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Try **PLP (plpc 1): sc-58571**, our highly recommended monoclonal alternative to PLP (N-18).