# PLP2 (Y-18): sc-102060



The Power to Ouestion

## **BACKGROUND**

Proteolipid protein 2, also known as PLP2 or A4, is a 152 amino acid, multipass transmembrane protein containing a MARVEL (MAL and related proteins for vesicle trafficking and membrane link) domain. Proteins containing the MARVEL domain have an M-shaped topology, with four transmembrane-helix regions and cytoplasmic N- and C-terminal regions. Localized to the membrane, PLP2 is highly enriched in colonic mucosa and is expressed in a gradient along the crypto-villus axis, with the most abundant expression in the lower half of the crypt. PLP2 has been thought to play a role in chemotaxis and cell differentiation in the intestinal epithelium. PLP2 has also been found in the pyramidal cells of hippocampus and granular cells of the cerebellum and has been implicated in X-linked mental retardation.

## **REFERENCES**

- 1. Oliva, M.M., Wu, T.C. and Yang, V.W. 1993. Isolation and characterization of a differentiation-dependent gene in the human colonic cell line HT29-18. Arch. Biochem. Biophys. 302: 183-192.
- Oliva, M.M., Cortese, J.F. and Yang, V.W. 1995. Promoter regulation of a differentially expressed gene in the human colonic epithelial cell lines HT29-18 and HT29-18-C1. Gene 159: 151-157.
- 3. Breitwieser, G.E., McLenithan, J.C., Cortese, J.F., Shields, J.M., Oliva, M.M., Majewski, J.L., Machamer, C.E. and Yang, V.W. 1997. Colonic epithelium-enriched protein A4 is a proteolipid that exhibits ion channel characteristics. Am. J. Physiol. 272 Pt. 1: C957-C965.
- 4. Fisher, S.E., Ciccodicola, A., Tanaka, K., Curci, A., Desicato, S., D'urso, M. and Craig, I.W. 1997. Sequence-based exon prediction around the synaptophysin locus reveals a gene-rich area containing novel genes in human proximal Xp. Genomics 45: 340-347.
- 5. Online Mendelian Inheritance in Man, OMIM™. 1999. Johns Hopkins University, Baltimore, MD. MIM Number: 300112. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
- 6. Lee, S.M., Shin, H., Jang, S.W., Shim, J.J., Song, I.S., Son, K.N., Hwang, J., Shin, Y.H., Kim, H.H., Lee, C.K., Ko, J., Na, D.S., Kwon, B.S. and Kim, J. 2004. PLP2/A4 interacts with CCR1 and stimulates migration of CCR1-expressing HOS cells. Biochem. Biophys. Res. Commun. 324: 768-772.
- 7. Zhang, L., Jie, C., Obie, C., Abidi, F., Schwartz, C.E., Stevenson, R.E., Valle, D. and Wang, T. 2007. X chromosome cDNA microarray screening identifies a functional PLP2 promoter polymorphism enriched in patients with X-linked mental retardation. Genome Res. 17: 641-648.

# **CHROMOSOMAL LOCATION**

Genetic locus: PLP2 (human) mapping to Xp11.23.

# **SOURCE**

PLP2 (Y-18) is a purified rabbit polyclonal antibody raised against PLP2 of human origin.

## **RESEARCH USE**

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

#### **PRODUCT**

Each vial contains 100  $\mu g$  IgG in 1.0 ml PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

## **APPLICATIONS**

PLP2 (Y-18) is recommended for detection of PLP2 of human and dog origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for PLP2 siRNA (h): sc-90929, PLP2 shRNA Plasmid (h): sc-90929-SH and PLP2 shRNA (h) Lentiviral Particles: sc-90929-V.

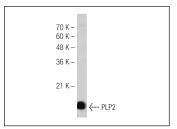
Molecular Weight of PLP2: 17 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227.

#### **RECOMMENDED SECONDARY REAGENTS**

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

# DATA



PLP2 (Y-18): sc-102060. Western blot analysis of PLP2 expression in Hep G2 whole cell lysate.

# **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.