

# LPPR4 (E-13): sc-161802

## BACKGROUND

Phosphatidate phosphatases are a family of integral membrane glycoproteins that dephosphorylate a variety of lipid phosphates and play a role in signal transduction via the phospholipase D pathway. PAP-2 proteins function independently of  $Mg^{2+}$  and are insensitive to NEM (N-ethylmaleimide) inhibition. The lipid phosphates degraded by this family include ceramide 1-phosphate (C1P), sphingosine 1-phosphate (S1P), phosphatidic acid (PA) and lysophosphatidic acid (LPA). LPPR4 (lipid phosphate phosphatase-related protein type 4), also known as LPR4, PHP1, PRG1 or PRG-1, is a 763 amino acid multi-pass membrane protein that belongs to the PA-phosphatase related phosphoesterase family. Exclusively expressed in neurons, LPPR4 hydrolyzes lysophosphatidic acid (LPA) and facilitates axonal outgrowth during development and regenerative sprouting. LPPR4 exists as two alternatively spliced isoforms and is encoded by a gene located on human chromosome 1p21.2.

## REFERENCES

1. Watson, M.L., et al. 1990. Genomic organization of the selectin family of leukocyte adhesion molecules on human and mouse chromosome 1. *J. Exp. Med.* 172: 263-272.
2. Blackwood, D.H., et al. 2001. Schizophrenia and affective disorders— cosegregation with a translocation at chromosome 1q42 that directly disrupts brain-expressed genes: clinical and P300 findings in a family. *Am. J. Hum. Genet.* 69: 428-433.
3. Weise, A., et al. 2005. New insights into the evolution of chromosome 1. *Cytogenet. Genome Res.* 108: 217-222.
4. Lans, H., et al. 2006. Cell biology: aging nucleus gets out of shape. *Nature* 440: 32-34.
5. Gregory, S.G., et al. 2006. The DNA sequence and biological annotation of human chromosome 1. *Nature* 441: 315-321.
6. Hennah, W., et al. 2006. Genes and schizophrenia: beyond schizophrenia: the role of DISC-1 in major mental illness. *Schizophr. Bull.* 32: 409-416.
7. Marzin, Y., et al. 2006. Chromosome 1 abnormalities in multiple myeloma. *Anticancer Res.* 26: 953-959.
8. McClintock, D., et al. 2006. Hutchinson-Gilford progeria mutant Lamin A primarily targets human vascular cells as detected by an anti-Lamin A G608G antibody. *Proc. Natl. Acad. Sci. USA* 103: 2154-2159.

## CHROMOSOMAL LOCATION

Genetic locus: LPPR4 (human) mapping to 1p21.2; D3Bwg0562e (mouse) mapping to 3 G1.

## SOURCE

LPPR4 (E-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of LPPR4 of human origin.

## STORAGE

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

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-161802 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

LPPR4 (E-13) is recommended for detection of LPPR4 of mouse, rat and human 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)], 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); non cross-reactive with LPPR2 or LPPR3.

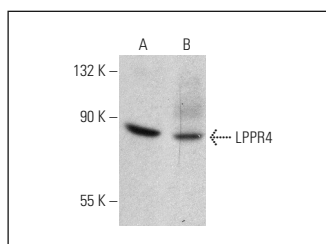
LPPR4 (E-13) is also recommended for detection of LPPR4 in additional species, including equine.

Suitable for use as control antibody for LPPR4 siRNA (h): sc-78869, LPPR4 siRNA (m): sc-149027, LPPR4 shRNA Plasmid (h): sc-78869-SH, LPPR4 shRNA Plasmid (m): sc-149027-SH, LPPR4 shRNA (h) Lentiviral Particles: sc-78869-V and LPPR4 shRNA (m) Lentiviral Particles: sc-149027-V.

Molecular Weight of LPPR4 isoforms: 83/62 kDa.

Positive Controls: H19-7/IGF-IR whole cell lysate or GH3 whole cell lysate: sc-364777.

## DATA



LPPR4 (E-13): sc-161802. Western blot analysis of LPPR4 expression in H19-7/IGF-IR (A) and GH3 (B) whole cell lysates.

## 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.

**MONOS**  
Satisfaction  
Guaranteed

Try **LPPR4 (E-10): sc-377263**, our highly recommended monoclonal alternative to LPPR4 (E-13).