

# LPPR4 (E-10): sc-377263

## 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. Seki, N., et al. 1997. Characterization of cDNA clones in size-fractionated cDNA libraries from human brain. *DNA Res.* 4: 345-349.
2. Bräuer, A.U., et al. 2003. A new phospholipid phosphatase, PRG-1, is involved in axon growth and regenerative sprouting. *Nat. Neurosci.* 6: 572-578.

## CHROMOSOMAL LOCATION

Genetic locus: RLPPR4 (human) mapping to 1p21.2; Plppr4 mapping to 3 G1.

## SOURCE

LPPR4 (E-10) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 363-395 within an internal region of LPPR4 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

LPPR4 (E-10) is available conjugated to agarose (sc-377263 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-377263 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377263 PE), fluorescein (sc-377263 FITC), Alexa Fluor® 488 (sc-377263 AF488), Alexa Fluor® 546 (sc-377263 AF546), Alexa Fluor® 594 (sc-377263 AF594) or Alexa Fluor® 647 (sc-377263 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377263 AF680) or Alexa Fluor® 790 (sc-377263 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-377263 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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## STORAGE

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

## APPLICATIONS

LPPR4 (E-10) is recommended for detection of LPPR4 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

LPPR4 (E-10) is also recommended for detection of LPPR4 in additional species, including equine, canine and bovine.

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.

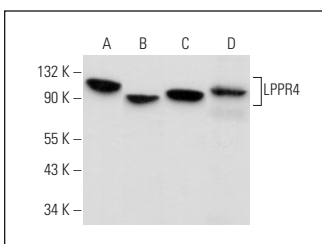
Molecular Weight of LPPR4 isoforms: 83/62 kDa.

Positive Controls: mouse brain extract: sc-2253, EOC 20 whole cell lysate: sc-364187 or Neuro-2A whole cell lysate: sc-364185.

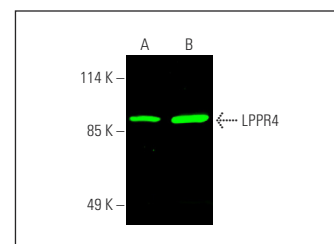
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  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



LPPR4 (E-10): sc-377263. Western blot analysis of LPPR4 expression in SH-SY5Y (A), Neuro-2A (B) and EOC 20 (C) whole cell lysates and mouse brain tissue extract (D).



LPPR4 (E-10): sc-377263. Near-infrared western blot analysis of LPPR4 expression in EOC 20 (A) and H19-7/IGF-IR (B) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgG $\kappa$  BP-CFL 680: sc-516180.

## SELECT PRODUCT CITATIONS

1. Wan, R., et al. 2020. Generation of an iPSC line (CHWi001-A) from peripheral blood mononuclear cells in a patient with intellectual disability and haploinsufficiency of PLPPR4. *Stem Cell Res.* 45: 101811.

## RESEARCH USE

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