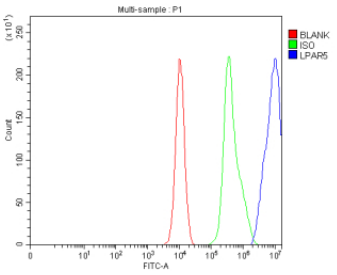
LPAR5 Antibody / Lysophosphatidic acid receptor 5 (FY13184)

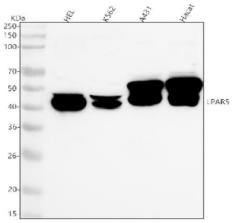
Catalog No.	Formulation	Size
FY13184	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Human
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q9H1C0
Applications	Western Blot : 0.25-0.5ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This LPAR5 antibody is available for research use only.



Flow Cytometry analysis of K562 cells using anti-LPAR5 antibody. Overlay histogram showing K562 cells stained with (Blue line). The cells were fixed with 4% paraformaldehyde and blocked with 10% normal goat serum. And then incubated with rabbit anti-LPAR5 antibody (1 ug/million cells) for 30 min at 20oC. DyLight 488 conjugated goat anti-rabbit IgG (5-10 ug/million cells) was used as secondary antibody for 30 minutes at 20oC. Isotype control antibody (Green line) was rabbit IgG (1 ug/million cells) used under the same conditions. Unlabelled sample (Red line) was also used as a control.



Western blot analysis of GPR92/LPAR5 using anti-LPAR5 antibody. Lane 1: human HEL whole cell lysates, Lane 2: human K562 whole cell lysates, Lane 3: human whole cell lysates, Lane 4: human Hacat whole cell lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-LPAR5 antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using enhanced chemiluminescent. Western blot detection of LPAR5 shows a doublet at ~41 kDa in multiple human cell lines. The closely spaced bands are consistent with differentially glycosylated and/or phosphorylated forms of the receptor commonly observed for GPCRs.

Description

LPAR5 antibody detects Lysophosphatidic acid receptor 5, a G protein-coupled receptor (GPCR) that mediates signaling by lysophosphatidic acid (LPA), a bioactive phospholipid involved in cell proliferation, motility, and immune regulation. The UniProt recommended name is Lysophosphatidic acid receptor 5 (LPAR5). This receptor couples primarily to G12/13 and Gq proteins, triggering downstream activation of Rho and phospholipase C pathways.

Functionally, LPAR5 antibody identifies a 353-amino-acid receptor localized to the plasma membrane. LPAR5 activation induces calcium mobilization, cytoskeletal rearrangement, and cytokine release. It contributes to pain sensation, vascular permeability, and immune cell migration. In neuronal cells, LPAR5 influences axonal guidance and neuroinflammation.

The LPAR5 gene is located on chromosome 12p13.31 and is expressed in platelets, lymphocytes, dorsal root ganglia, and intestinal epithelial cells. It plays roles in both physiological and pathological processes such as wound healing, sensory transmission, and inflammation.

Pathologically, dysregulation of LPAR5 signaling has been implicated in neuropathic pain, cancer metastasis, and autoimmune diseases. Inhibition of LPAR5 reduces pain hypersensitivity and inflammatory cytokine production, making it a potential therapeutic target. Research using LPAR5 antibody supports studies in GPCR signaling, lipid biology, and inflammation.

LPAR5 antibody is validated for western blotting, immunohistochemistry, and immunofluorescence to detect LPA receptors. NSJ Bioreagents provides LPAR5 antibody reagents optimized for research in lipid signaling, receptor pharmacology, and immune modulation.

Structurally, Lysophosphatidic acid receptor 5 contains seven transmembrane helices and intracellular loops that couple to G proteins and scaffolding proteins. This antibody facilitates exploration of LPAR5's signaling mechanisms and receptor-mediated physiological responses.

Application Notes

Optimal dilution of the LPAR5 antibody should be determined by the researcher.

Immunogen

E.coli-derived human LPAR5 recombinant protein (Position: A83-L372) was used as the immunogen for the LPAR5 antibody.

Storage

After reconstitution, the LPAR5 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.