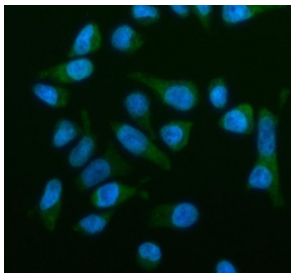
OSBPL2 Antibody / Oxysterol-binding protein-like 2 (FY12994)

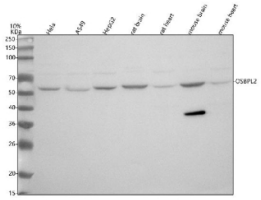
Catalog No.	Formulation	Size
FY12994	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

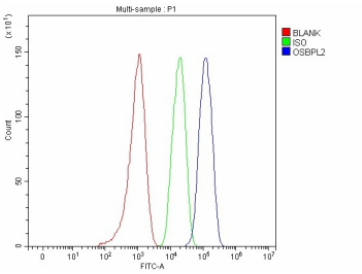
Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q9H1P3
Applications	Western Blot : 0.25-0.5ug/ml Immunocytochemistry : 5ug/ml Immunofluorescence : 5ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This OSBPL2 antibody is available for research use only.



Immunofluorescent staining of OSBPL2 using anti-OSBPL2 antibody (green). OSBPL2 was detected in an immunocytochemical section of HELA cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5 ug/ml rabbit anti-OSBPL2 antibody overnight at 4oC. DyLight 488 Conjugated Goat Anti-Rabbit IgG was used as secondary antibody at 1:500 dilution and incubated for 30 minutes at 37oC. The section was counterstained with DAPI nuclear stain (blue). Visualize using a fluorescence microscope and filter sets appropriate for the label used.



Western blot analysis of OSBPL2 using anti-OSBPL2 antibody. Lane 1: human Hela whole cell lysates, Lane 2: human whole cell lysates, Lane 3: human HepG2 whole cell lysates, Lane 4: rat brain tissue lysates, Lane 5: rat heart tissue lysates, Lane 6: mouse brain tissue lysates, Lane 7: mouse heart tissue 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-OSBPL2 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. A specific band was detected for OSBPL2 at approximately 55 kDa. The expected molecular weight of OSBPL2 is ~55 kDa.



Flow Cytometry analysis of HepG2 cells using anti-OSBPL2 antibody. Overlay histogram showing HepG2 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-OSBPL2 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 without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.

Description

OSBPL2 antibody detects Oxysterol-binding protein-like 2, a cytosolic lipid transfer protein that regulates cholesterol distribution, phospholipid exchange, and vesicular trafficking. The UniProt recommended name is Oxysterol-binding protein-like 2 (OSBPL2), also known as ORP2. This protein belongs to the oxysterol-binding protein (OSBP) family, which mediates non-vesicular lipid transfer and signaling between intracellular membranes.

Functionally, OSBPL2 antibody identifies a 916-amino-acid protein containing an N-terminal pleckstrin homology (PH) domain for membrane targeting and a C-terminal OSBP-related domain (ORD) that binds sterols and phosphatidylinositol phosphates. OSBPL2 functions as a lipid exchanger, shuttling cholesterol and phosphatidylserine between the endoplasmic reticulum and plasma membrane. Through this exchange, it regulates lipid signaling and membrane composition critical for endocytosis and vesicle formation.

The OSBPL2 gene is located on chromosome 20q13.12 and is expressed in a variety of tissues, including liver, brain, and muscle. OSBPL2 contributes to intracellular cholesterol homeostasis by facilitating lipid equilibration across membrane compartments. It interacts with small GTPases such as Rab7 and Arf1 to coordinate lipid trafficking with vesicular transport. Dysregulation of OSBPL2 affects lipid distribution, leading to membrane stress, endosomal dysfunction, and altered cellular signaling.

In lipid metabolism, OSBPL2 acts as a sensor for oxysterols and phosphoinositides, integrating lipid status with signaling pathways such as PI3K/AKT and MAPK. It also modulates the activity of lipid-metabolizing enzymes and influences the localization of phosphatidylinositol 4-phosphate at membrane contact sites. Mutations in OSBPL2 are associated with autosomal dominant hearing loss, indicating its role in membrane stability and ion channel regulation in auditory hair cells.

OSBPL2 antibody is widely used in membrane biology, metabolism, and vesicle trafficking research. It is suitable for immunoblotting, immunofluorescence, and subcellular fractionation studies to examine OSBPL2 localization and function. This antibody is valuable for exploring mechanisms of lipid sensing and non-vesicular transport between organelles. In metabolic and cell signaling studies, OSBPL2 antibody aids in understanding sterol regulation and membrane homeostasis.

Structurally, OSBPL2 features conserved lipid-binding motifs within its ORD domain and multiple targeting sequences that

direct it to membrane contact sites. It can form dimers or higher-order assemblies that facilitate lipid transfer across closely apposed membranes. NSJ Bioreagents provides OSBPL2 antibody reagents validated for use in lipid transport, signaling, and membrane biology research.

Application Notes

Optimal dilution of the OSBPL2 antibody should be determined by the researcher.

Immunogen

E.coli-derived human OSBPL2 recombinant protein (Position: E6-Y480) was used as the immunogen for the OSBPL2 antibody.

Storage

After reconstitution, the OSBPL2 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.