

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

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Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
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 Na ₂ HPO ₄ .
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.

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 4°C. For long-term, aliquot and store at -20°C. Avoid repeated freezing and thawing.