

Anti-SPHK1 Antibody
Catalog # ABO11305**Specification**

Anti-SPHK1 Antibody - Product Information

Application	WB, IHC-P, ICC
Primary Accession	Q9NYA1
Host	Rabbit
Reactivity	Human, Mouse
Clonality	Polyclonal
Format	Lyophilized

Description

Rabbit IgG polyclonal antibody for Sphingosine kinase 1 (SPHK1) detection. Tested with WB, IHC-P, ICC in Human; Mouse.

Reconstitution

Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Anti-SPHK1 Antibody - Additional Information

Gene ID 8877

Other Names

Sphingosine kinase 1, SK 1, SPK 1, 2.7.1.91, SPHK1, SPHK, SPK

Calculated MW

42518 MW KDa

Application Details

Immunocytochemistry , 0.5-1 µg/ml, Human, -
Immunohistochemistry(Paraffin-embedded Section), 0.5-1 µg/ml, Human, Mouse, By Heat
Western blot, 0.1-0.5 µg/ml, Human, Rat

Subcellular Localization

Cytoplasm. Nucleus. Cell membrane. Translocated from the cytoplasm to the plasma membrane in a CIB1-dependent manner.

Tissue Specificity

Widely expressed with highest levels in adult liver, kidney, heart and skeletal muscle. .

Protein Name

Sphingosine kinase 1

Contents

Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na₂HPO₄, 0.05mg Thimerosal, 0.05mg NaN₃.

Immunogen

A synthetic peptide corresponding to a sequence in the middle region of human SPHK1(117-133aa AASLNHYAGYEQVTNED), different from the related rat sequence by two amino acids, and from the related mouse sequence by one amino acid.

Purification

Immunogen affinity purified.

Cross Reactivity

No cross reactivity with other proteins

Storage

At -20°C for one year. After r°Constitution, at 4°C for one month. It°Can also be aliquotted and stored frozen at -20°C for a longer time.Avoid repeated freezing and thawing.

Anti-SPHK1 Antibody - Protein Information

Name SPHK1 ([HGNC:11240](#))

Function

Catalyzes the phosphorylation of sphingosine to form sphingosine 1-phosphate (SPP), a lipid mediator with both intra- and extracellular functions. Also acts on D-erythro-sphingosine and to a lesser extent sphinganine, but not other lipids, such as D,L-threo- dihydrosphingosine, N,N-dimethylsphingosine, diacylglycerol, ceramide, or phosphatidylinositol (PubMed:11923095, PubMed:20577214, PubMed:23602659, PubMed:24929359, PubMed:29662056). In contrast to proapoptotic SPHK2, has a negative effect on intracellular ceramide levels, enhances cell growth and inhibits apoptosis (PubMed:16118219). Involved in the regulation of inflammatory response and neuroinflammation. Via the product sphingosine 1-phosphate, stimulates TRAF2 E3 ubiquitin ligase activity, and promotes activation of NF- kappa-B in response to TNF signaling leading to IL17 secretion (PubMed:20577214). In response to TNF and in parallel to NF-kappa-B activation, negatively regulates RANTES induction through p38 MAPK signaling pathway (PubMed:23935096). Involved in endocytic membrane trafficking induced by sphingosine, recruited to dilate endosomes, also plays a role on later stages of endosomal maturation and membrane fusion independently of its kinase activity (PubMed:24929359, PubMed:28049734). In Purkinje cells, seems to be also involved in the regulation of autophagosome-lysosome fusion upon VEGFA (PubMed:25417698).

Cellular Location

Cytoplasm. Nucleus. Cell membrane. Endosome membrane; Peripheral membrane protein. Membrane, clathrin-coated pit. Synapse {ECO:0000250|UniProtKB:Q8CI15} Note=Translocated from the cytoplasm to the plasma membrane in a CIB1- dependent manner (PubMed:19854831). Binds to membranes containing negatively charged lipids but not neutral lipids (PubMed:24929359) Recruited to endocytic membranes by sphingosine where promotes membrane fusion (By similarity). {ECO:0000250|UniProtKB:Q8CI15, ECO:0000269|PubMed:19854831, ECO:0000269|PubMed:24929359}

Tissue Location

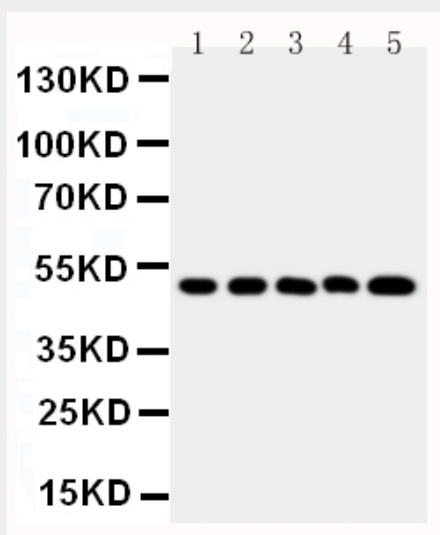
Widely expressed with highest levels in adult liver, kidney, heart and skeletal muscle. Expressed in brain cortex (at protein level) (PubMed:29662056).

Anti-SPHK1 Antibody - Protocols

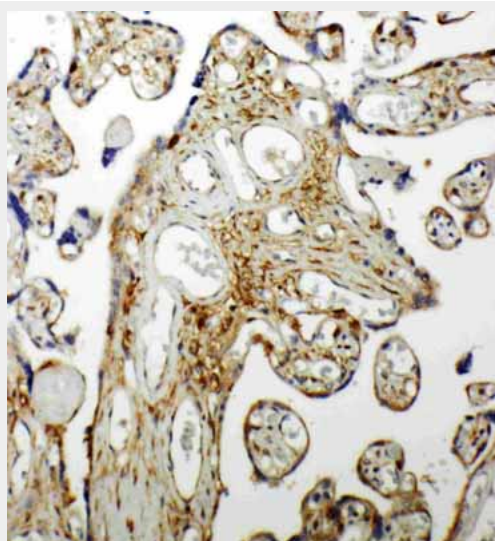
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

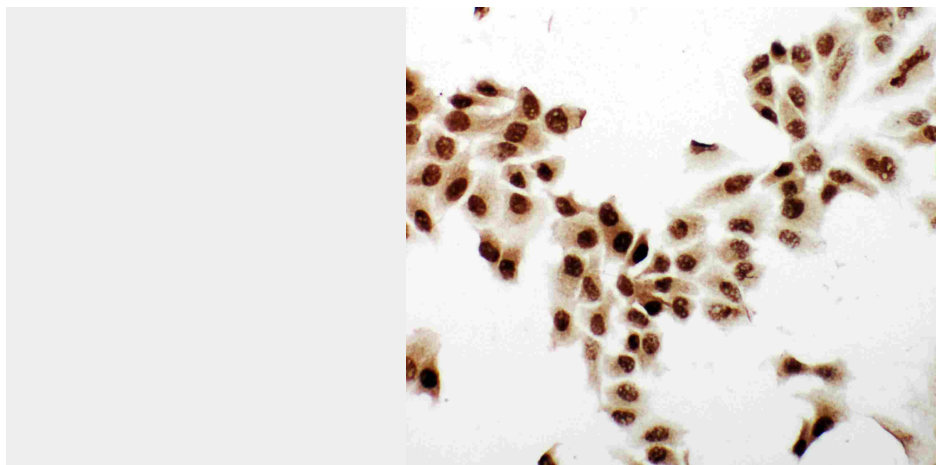
Anti-SPHK1 Antibody - Images



Anti-SPHK1 antibody, ABO11305, Western blotting
Lane 1: RAJI Cell Lysate
Lane 2: MCF-7 Cell Lysate
Lane 3: Hut Cell Lysate
Lane 4: HELA Cell Lysate
Lane 5: 293T Cell Lysate



Anti-SPHK1 antibody, ABO11305, IHC(P)
IHC(P): Human Placenta Tissue



Anti-SPHK1 antibody, ABO11305, ICCICC: HELA Cell

Anti-SPHK1 Antibody - Background

SPHK1(Sphingosine Kinase 1), is an enzyme that in humans is encoded by the SPHK1 gene. Melendez et al.(2000) mapped the SPHK1 gene to chromosome 17q25.2 based on sequence identity with ESTs mapped to this region. Kohama et al.(1998) demonstrated that recombinant mouse Sphk1 can specifically phosphorylate D-erythro-sphingosine and that D, L-threo-dihydrosphingosine and N, N-dimethylsphingosine can act as competitive inhibitors of recombinant Sphk1. Pitson et al.(2000) found that recombinant SPHK1 and endogenous SPHK1 purified from placenta had identical enzymatic characteristics, suggesting posttranslational modification does not effect functional properties.