

**Anti-SPHK1 Antibody**  
Catalog # ABO11305

**Specification**

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**Anti-SPHK1 Antibody - Product Information**

Application	WB, IHC, ICC
Primary Accession	<a href="#">O9NYA1</a>
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, -<br>Immunohistochemistry(Paraffin-embedded Section), 0.5-1 µg/ml, Human, Mouse, By Heat<br>Western blot, 0.1-0.5 µg/ml, Human, Rat<br>

**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 Na<sub>2</sub>HPO<sub>4</sub>, 0.05mg Thimerosal, 0.05mg NaN<sub>3</sub>.

**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:<a href="http://www.uniprot.org/citations/11923095" target="\_blank">11923095</a>, PubMed:<a href="http://www.uniprot.org/citations/20577214" target="\_blank">20577214</a>, PubMed:<a href="http://www.uniprot.org/citations/23602659" target="\_blank">23602659</a>, PubMed:<a href="http://www.uniprot.org/citations/24929359" target="\_blank">24929359</a>, PubMed:<a href="http://www.uniprot.org/citations/29662056" target="\_blank">29662056</a>). In contrast to proapoptotic SPHK2, has a negative effect on intracellular ceramide levels, enhances cell growth and inhibits apoptosis (PubMed:<a href="http://www.uniprot.org/citations/16118219" target="\_blank">16118219</a>). 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:<a href="http://www.uniprot.org/citations/20577214" target="\_blank">20577214</a>). In response to TNF and in parallel to NF-kappa-B activation, negatively regulates RANTES induction through p38 MAPK signaling pathway (PubMed:<a href="http://www.uniprot.org/citations/23935096" target="\_blank">23935096</a>). 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:<a href="http://www.uniprot.org/citations/24929359" target="\_blank">24929359</a>, PubMed:<a href="http://www.uniprot.org/citations/28049734" target="\_blank">28049734</a>). In Purkinje cells, seems to be also involved in the regulation of autophagosome-lysosome fusion upon VEGFA (PubMed:<a href="http://www.uniprot.org/citations/25417698" target="\_blank">25417698</a>).

**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**

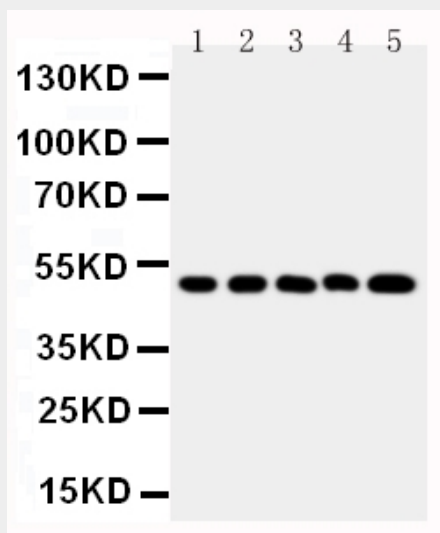
Widely expressed with highest levels in adult liver, kidney, heart and skeletal muscle. Expressed in brain cortex (at protein level) (PubMed:29662056).

## Anti-SPHK1 Antibody - Protocols

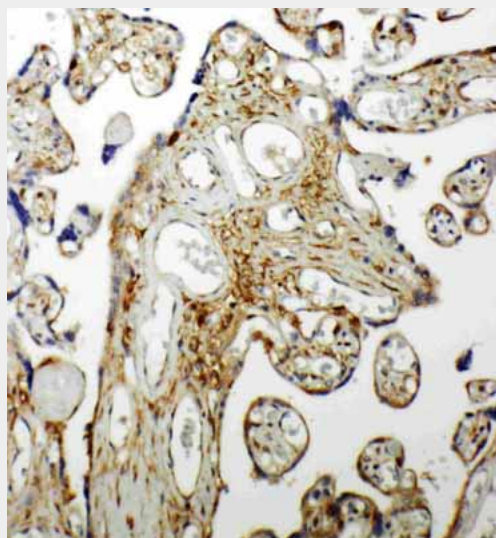
Provided below are standard protocols that you may find useful for product applications.

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

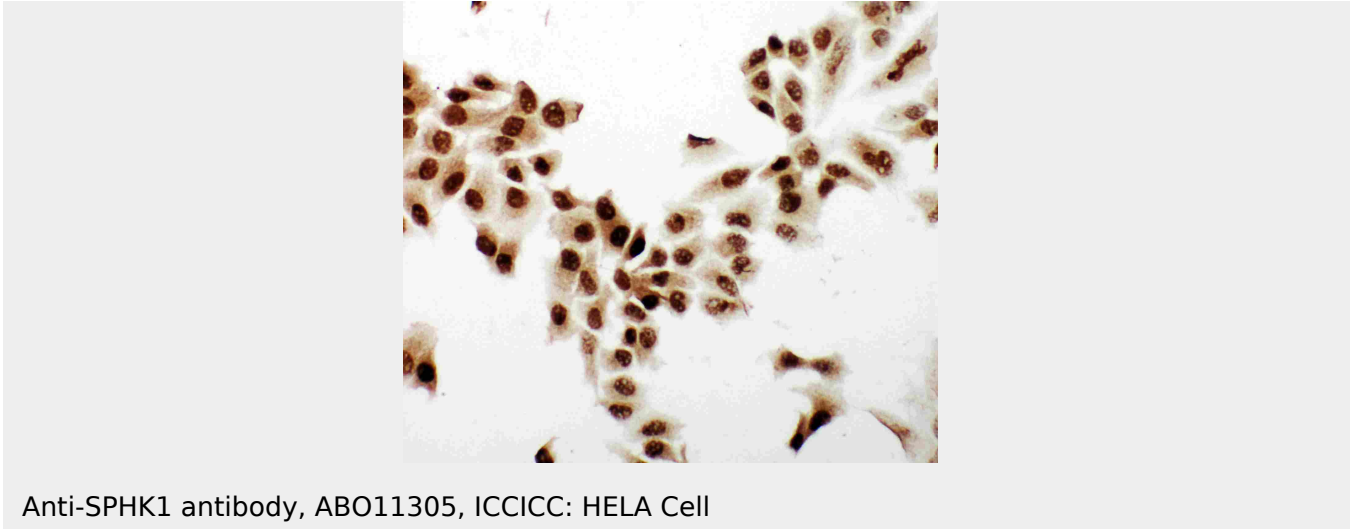
## Anti-SPHK1 Antibody - Images



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 - 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.