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Sphingosine Kinase 1 (SPK1) Antibody
Rabbit Polyclonal Antibody
Catalog # ABV10680

Specification

Sphingosine Kinase 1 (SPK1) Antibody - Product Information

Application	**WB**
Primary Accession	Q8CI15
Other Accession	CAM17115
Reactivity	**Human, Mouse, Rat**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Calculated MW	**42443**

Sphingosine Kinase 1 (SPK1) Antibody - Additional Information

Gene ID 20698

Application & Usage: **Western blotting (0.5-4 µg/ml). However, the optimal concentrations should be determined individually. The antibody recognizes 42 kDa bands from samples of human, mouse and rat origins. Reactivity to other species has not been tested.**

Other Names
SPK1, SPK-1, SPK 1, sphk, SK1, SK 1

Target/Specificity
SPK1

Antibody Form
Liquid

Appearance
Colorless liquid

Formulation
100 µg (0.5mg/ml) affinity purified rabbit polyclonal antibody in phosphate-buffered saline (PBS) containing 30% glycerol, 0.5% BSA and 0.01% thimerosal.

Handling
The antibody solution should be gently mixed before use.

Reconstitution & Storage
-20 °C

Background Descriptions

Precautions
Sphingosine Kinase 1 (SPK1) Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Sphingosine Kinase 1 (SPK1) Antibody - Protein Information

Name Sphk1 {ECO:0000312|MGI:MGI:1316649}

Function
Catalyzes the phosphorylation of sphingosine to form sphingosine 1-phosphate (SPP), a lipid mediator with both intra- and extracellular functions (PubMed:17346996, PubMed:21084291, PubMed:25417698, PubMed:29662056, PubMed:33334894). 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:9726979). 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 (By similarity). In response to TNF and in parallel to NF-kappa-B activation, negatively regulates RANTES induction through p38 MAPK signaling pathway (By similarity). 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:27806293, PubMed:28049734). In Purkinje cells, seems to be also involved in the regulation of autophagosome-lysosome fusion upon VEGFA (PubMed:25417698).

Cellular Location
Cytoplasm. Endosome membrane; Peripheral membrane protein. Nucleus. Cell membrane {ECO:0000250|UniProtKB:Q9NYA1}. Synapse Note=Translocated from the cytoplasm to the plasma membrane in a CIB1- dependent manner. Binds to membranes containing negatively charged lipids but not neutral lipids (By similarity). Recruited to endocytic membranes by sphingosine where promotes membrane fusion (PubMed:27806293). {ECO:0000250|UniProtKB:Q9NYA1, ECO:0000269|PubMed:27806293}

Tissue Location
Widely expressed (PubMed:9726979). Expressed in brain (at protein level). Detected in neurons

Sphingosine Kinase 1 (SPK1) Antibody - Protocols

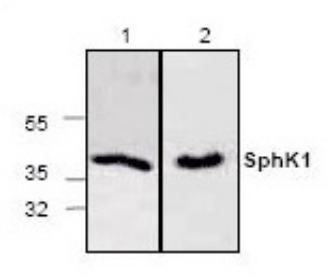
Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry

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- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Sphingosine Kinase 1 (SPK1) Antibody - Images



Western blot analysis of Sphingosine Kinase 1 in Jurkat cell lysate (Lane 1) and rat kidney tissue lysate (Lane 2).

Sphingosine Kinase 1 (SPK1) Antibody - Background

Sphingosine Kinase (SphK) is a conserved lipid kinase that catalyzes the phosphorylation of sphingolipid sphingosine to sphingosine-1-phosphate (SIP). SIP receptors coupled to cell surface G protein to regulate cell growth, survival, motility and inflammatory responses. There are two types of SphK, SphK1 and SphK2. SphK1 is found in the cytosol and migrates to the membrane when activated. SphK1 has been associated with cell growth, prevention of apoptosis and cellular transformation. SphK2 is found mainly in the nucleus and in contrast to SphK1, it enhances the rate of apoptosis.