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Goat Anti-SPHK1 Antibody

Peptide-affinity purified goat antibody
Catalog # AF2031a

Specification

Goat Anti-SPHK1 Antibody - Product Information

Application	**WB**
Primary Accession	Q9NYA1
Other Accession	NP_892010, 8877, 20698 (mouse), 170897 (rat)
Reactivity	**Human**
Predicted	**Mouse, Rat, Cow, Dog**
Host	**Goat**
Clonality	**Polyclonal**
Concentration	**100ug/200ul**
Isotype	**IgG**
Calculated MW	**42518**

Goat Anti-SPHK1 Antibody - Additional Information

Gene ID 8877

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

Format
0.5 mg IgG/ml in Tris saline (20mM Tris pH7.3, 150mM NaCl), 0.02% sodium azide, with 0.5% bovine serum albumin

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
Goat Anti-SPHK1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Goat 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:20577214, PubMed:23602659, PubMed:<a

href="http://www.uniprot.org/citations/29662056" target="_blank">29662056, PubMed:24929359, PubMed:11923095). 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:28049734, PubMed:24929359). 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).

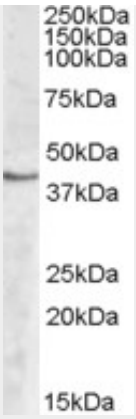
Goat Anti-SPHK1 Antibody - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Goat Anti-SPHK1 Antibody - Images

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AF2031a (2 µg/ml) staining of Human Peripheral Blood Mononucleocyte lysate (35 µg protein in RIPA buffer). Primary incubation was 1 hour. Detected by chemiluminescence.

Goat Anti-SPHK1 Antibody - Background

Sphingosine-1-phosphate (SPP) is a novel lipid messenger with both intracellular and extracellular functions. Intracellularly, it regulates proliferation and survival, and extracellularly, it is a ligand for EDG1 (MIM 601974). Various stimuli increase cellular levels of SPP by activation of sphingosine kinase (SPHK), the enzyme that catalyzes the phosphorylation of sphingosine. Competitive inhibitors of SPHK block formation of SPP and selectively inhibit cellular proliferation induced by a variety of factors, including platelet-derived growth factor (e.g., MIM 173430) and serum.

Goat Anti-SPHK1 Antibody - References

SphK1 regulates proinflammatory responses associated with endotoxin and polymicrobial sepsis. Puneet P, et al. Science, 2010 Jun 4. PMID 20522778.
Sphingosine 1-phosphate-metabolizing enzymes control influenza virus propagation and viral cytopathogenicity. Seo YJ, et al. J Virol, 2010 Aug. PMID 20519401.
Sphingosine kinase mediates resistance to the synthetic retinoid N-(4-hydroxyphenyl)retinamide in human ovarian cancer cells. Illuzzi G, et al. J Biol Chem, 2010 Jun 11. PMID 20404323.
New genetic associations detected in a host response study to hepatitis B vaccine. Davila S, et al. Genes Immun, 2010 Apr. PMID 20237496.
CXCL4-induced monocyte survival, cytokine expression, and oxygen radical formation is regulated by sphingosine kinase 1. Kasper B, et al. Eur J Immunol, 2010 Apr. PMID 20104488.

Goat Anti-SPHK1 Antibody - Citations

- High expression of sphingosine 1-phosphate receptors, S1P1 and S1P3, sphingosine kinase 1, and extracellular signal-regulated kinase-1/2 is associated with development of tamoxifen resistance in estrogen receptor-positive breast cancer patients.