

**SPHK2 Blocking Peptide (N-term)**

Synthetic peptide

Catalog # BP21357a

**Specification**

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**SPHK2 Blocking Peptide (N-term) - Product Information**

Primary Accession

[Q9NRA0](#)**SPHK2 Blocking Peptide (N-term) - Additional Information**

Gene ID 56848

**Other Names**

Sphingosine kinase 2, SK 2, SPK 2, SPHK2

**Target/Specificity**

The synthetic peptide sequence is selected from aa 52-64 of HUMAN SPHK2

**Format**

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

**Storage**

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

**Precautions**

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

**SPHK2 Blocking Peptide (N-term) - Protein Information**Name SPHK2 ([HGNC:18859](#))

Synonyms SK2

**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-dihydrosphingosine, D- erythro-sphingosine and L-threo-dihydrosphingosine. Binds phosphoinositides (PubMed:<a href="http://www.uniprot.org/citations/19168031" target="\_blank">19168031</a>, PubMed:<a href="http://www.uniprot.org/citations/12954646" target="\_blank">12954646</a>). In contrast to prosurvival SPHK1, has a positive effect on intracellular ceramide levels, inhibits cells growth and enhances apoptosis (PubMed:<a href="http://www.uniprot.org/citations/16118219" target="\_blank">16118219</a>). In mitochondria, is important for cytochrome-c oxidase assembly and mitochondrial respiration. The SPP produced in mitochondria binds PHB2 and modulates the regulation via PHB2 of complex IV assembly and respiration (PubMed:<a href="http://www.uniprot.org/citations/20959514" target="\_blank">20959514</a>). In nucleus, plays a role in epigenetic regulation of gene expression. Interacts with HDAC1 and HDAC2 and, through SPP production, inhibits their enzymatic activity, preventing the removal of acetyl groups

from lysine residues with histones. Up- regulates acetylation of histone H3-K9, histone H4-K5 and histone H2B- K12 (PubMed:<a href="http://www.uniprot.org/citations/19729656" target="\_blank">19729656</a>). In nucleus, may have an inhibitory effect on DNA synthesis and cell cycle (PubMed:<a href="http://www.uniprot.org/citations/12954646" target="\_blank">12954646</a>, PubMed:<a href="http://www.uniprot.org/citations/16103110" target="\_blank">16103110</a>). In mast cells, is the main regulator of SPP production which mediates calcium influx, NF-kappa-B activation, cytokine production, such as TNF and IL6, and degranulation of mast cells (By similarity). In dopaminergic neurons, is involved in promoting mitochondrial functions regulating ATP and ROS levels (By similarity). Also involved in the regulation of glucose and lipid metabolism (By similarity).

#### **Cellular Location**

Cytoplasm. Nucleus. Endoplasmic reticulum {ECO:0000250|UniProtKB:Q9JIA7}. Mitochondrion inner membrane {ECO:0000250|UniProtKB:Q9JIA7}. Note=In nucleus, located in nucleosomes where it associates with core histone proteins such as histone 3 (PubMed:19729656). In brains of patients with Alzheimer's disease, may be preferentially localized in the nucleus. Cytosolic expression decrease correlates with the density of amyloid deposits (PubMed:29615132). In apoptotic cells, colocalizes with CASP1 in cell membrane where is cleaved and released from cells in an active form (PubMed:20197547).

#### **Tissue Location**

Mainly expressed in adult kidney, liver, and brain (PubMed:10751414). Expressed in cerebral cortex and hippocampus (at protein level) (PubMed:29615132). Isoform 1 is the predominant form expressed in most tissues (PubMed:16103110)

### **SPHK2 Blocking Peptide (N-term) - Protocols**

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

- [Blocking Peptides](#)

### **SPHK2 Blocking Peptide (N-term) - Images**

### **SPHK2 Blocking Peptide (N-term) - Background**

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- dihydrosphingosine, D-erythro-sphingosine and L-threo- dihydrosphingosine. Binds phosphoinositides.

### **SPHK2 Blocking Peptide (N-term) - References**

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