Recombinant Human Sphingosine Kinase 1, His-tagged

Cat. No. SPHK1-523H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human Sphingosine kinase 1 (full length) was expressed in a*Baculovirus infected Sf9*cell expression system with N-terminal His tag. MW=46.9 kDa.
Species	Human
Source	Sf9 Cells
Description	Sphingosine kinase 1 is an enzyme that in humans is encoded by the SPHK1 gene. 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. 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 and serum.
Formulated In	25 mM Tris-HCl, pH 8.0, 100 mM NaCl, 0.05% Tween-20, 50% glycerol, and 3 mM DTT.
Application	Useful for the study of enzyme kinetics, screening inhibitors, and selectivity profiling.
Specific Activity	20 U/μg. Sphingosine kinase activity was determined using Derythro-sphingosine and ATP as substrates. A unit of sphingosine kinase activity is defined as the amount of enzyme required to produce 1 pmol of S1P/min. Assay buffer: 50 mM HEPES, pH

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	7.4, 150 mM NaCl, 5 mM MgCl2, 1 mM DTT, 3 μM Naorthovanadate, 0.5 mM ATP, 4 μM Derythro-sphingosine, and 0.1-0.5 μg/ml sphingosine kinase 1.
Purity	> 80%.
Stability	> 6 months at –80°C.
Full Length	Full L.

GENE INFORMATION

Gene Name	SPHK1 sphingosine kinase 1 [Homo sapiens]
Synonyms	sphingosine kinase 1; SPHK; SPHK1; EC 2.7.1.91; SPK; SK 1; SPK 1
Gene ID	8877
mRNA Refseq	NM_001142601
Protein Refseq	NP_001136073
MIM	603730
UniProt ID	Q9NYA1
Chromosome Location	17q25.2
Pathway	Calcium signaling pathway; Fc gamma R-mediated phagocytosis; Metabolic pathways; Sphingolipid metabolism; VEGF signaling pathway
Function	ATP binding; D-erythro-sphingosine kinase activity; DNA binding; calmodulin binding;

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	diacylglycerol kinase activity; magnesium ion binding; nucleotide binding; sphinganine kinase activity; transferase activity

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