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Produktinformation

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Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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PRODUCT INFORMATION

Sphingosine Kinase 2 (human, recombinant)

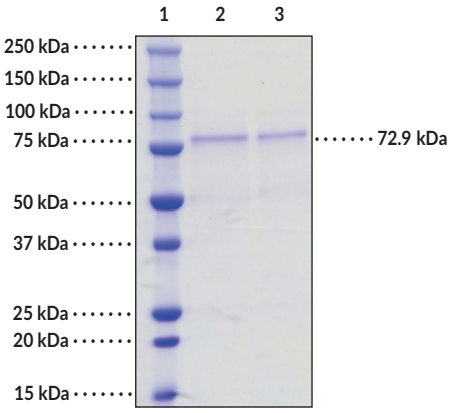
Item No. 30191

Overview and Properties

Synonyms:	SK2, SPHK2, SPK2
Source:	Active recombinant N-terminal His-tagged protein expressed in insect cells
Amino Acids:	2-654 (full length)
Uniprot No.:	Q9NRA0
Molecular Weight:	72.9 kDa
Storage:	-80°C (as supplied)
Stability:	≥1 year
Purity:	***batch specific*** (≥75% estimated by SDS-PAGE)
Supplied in:	25 mM HEPES, pH 8.0, with 150 mM sodium chloride, 3 mM DTT, 0.05% Triton X-100, and 5% glycerol
Protein Concentration:	***batch specific*** mg/ml
Activity:	***batch specific*** U/ml
Specific Activity:	***batch specific*** U/mg
Unit Definition:	One unit is defined as the amount of enzyme required to produce 1 µmol of ADP per minute at 25°C in 20 mM HEPES, pH 7.4, containing 50 mM sodium chloride, 10 mM magnesium chloride, 1 mM EGTA, 0.02% triton X-100, and 50 µM sphingosine (d18:1).

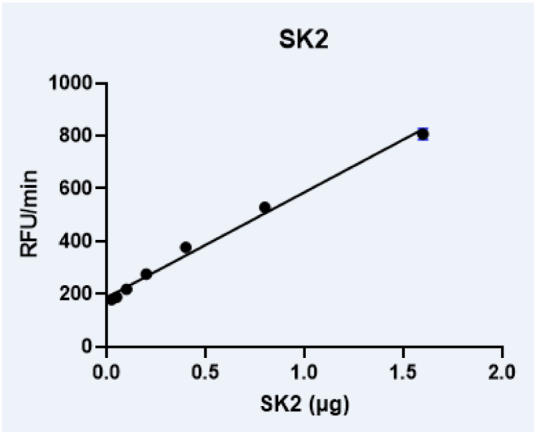
Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Images



Lane 1: MW Markers
Lane 2: SPHK2 (4 µg)
Lane 3: SPHK2 (2 µg)

Representative gel image shown; actual purity may vary between each batch.



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PRODUCT INFORMATION

Description

Sphingosine kinase 2 (SPHK2) is an ATP-dependent lipid kinase that is encoded by the *SPHK2* gene in humans.[1] It is composed of an N-terminal domain that contains an ATP binding site and a C-terminal domain that mediates substrate binding and specificity. SPHK2 is localized to the mitochondria, nucleus, and endoplasmic reticulum and is expressed in a wide variety of tissues, including the liver and kidney.[2] Upon cellular stimulation with EGF, phorbol 12-myristate 13-acetate (PMA; Item No. 10008014), or FcεRI, SPHK2 is activated and catalyzes phosphorylation of sphingosine to sphingosine-1-phosphate (S1P).[1,3] SPHK2 has roles in many physiological and pathological processes, including cancer, inflammation, and neurodegenerative diseases.[1,4-7] Pharmacological inhibition of SPHK2 decreases intracellular S1P levels in U937 cells, but genetic deletion or pharmacological inhibition of SPHK2 in mice increases blood S1P levels, an effect that has not been fully characterized but may be related to reduced S1P clearance in the blood in the absence of SPHK2 activity.[8] Overexpression of *SPHK2* increases intracellular calcium levels and induces apoptosis in NIH3T3 cancer cells and reduces LPS-induced increases in TNF-α and IL-6 levels in isolated human peripheral blood mononuclear cell-derived macrophages *in vitro*.[4,5] SPHK2 activity is increased in postmortem frontal cortex from patients with Alzheimer's disease.[7] Cayman's Sphingosine Kinase 2 (human, recombinant) protein can be used for Western blot, ELISA, and enzymatic assays.

References

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4. Maceyka, M., Sankala, H., Hait, N.C., *et al.* SphK1 and SphK2, sphingosine kinase isoenzymes with opposing functions in sphingolipid metabolism. *J. Biol. Chem.* **280(44)**, 37118-37129 (2005).
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