Background
Sphingosine kinase (SphK or SphK1) is a key enzyme catalyzing the phosphorylation of sphingosine to form sphingosine 1-phosphate (SPP or S1P). SPP is a bioactive lipid that exerts multiple biological effects in a large variety of cell types, acting as either an intracellular messenger or an extracellular ligand coupled to Edg-family receptors. Competitive inhibitors of SphK1 block formation of SPP and selectively inhibit cellular proliferation induced by a variety of factors. One potent inhibitor of SphK1 activity is DMS (N,N-dimethylsphingosine). SPP/SphK1 has been implicated as a signaling pathway that regulates diverse cellular functions, including cell growth, proliferation and survival. Specifically, SphK1 is involved in the signaling pathway(s) that protects human hepatocytes from the apoptotic action of TNFα. Furthermore, SPP/SphK1 may play an important role in neuronal survival by regulating activation of SAPKs and caspases. SphK1 is widely expressed with highest levels in adult liver, kidney, heart and skeletal muscle; however, activation of SphK1 disengages cells from their liver-specific phenotype. SphK1 is highly homologous with SphK2, another member of a growing class of sphingolipid kinases. Expression of SphK2 mRNA exhibits a markedly different tissue distribution than that of SphK1 and appears at a later stage in embryonic development.

Chromosomal Location
Genetic locus: SPHK2 (human) mapping to 19q13.33; Sphk2 (mouse) mapping to 7 B4.

Source
SphK2 (P-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of SphK2 of human origin.

Product
Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-22704 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Applications
SphK2 (P-19) is recommended for detection of SphK2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation (1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

SphK2 (P-19) is also recommended for detection of SphK2 in additional species, including canine, bovine and porcine.


Molecular Weight of SphK2: 70 kDa.


Storage
Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

Select Product Citations

Research Use
For research use only, not for use in diagnostic procedures.

Protocols
See our web site at www.scbt.com or our catalog for detailed protocols and support products.

Try SphK2 (9C5E1): sc-517192, our highly recommended monoclonal alternative to SphK2 (P-19).