

# Sphingosine Kinase 1 (Ser-225), phospho-specific

<b>Cat. #</b>	SP1641
<b>Host</b>	Rabbit Polyclonal
<b>Size</b>	100 µl

## Background:

Sphingolipids are metabolized into bioactive products that include ceramide, sphingosine, and sphingosine-1-phosphate (S1P). Sphingosine Kinase (SK) catalyzes the phosphorylation of the lipid sphingosine, creating S1P. S1P subsequently signals through cell surface G protein-coupled receptors, as well as intracellularly, to modulate cell proliferation, survival, motility and differentiation. Two isoforms of SK have been identified, SK1 and SK2. The mRNA for both of these isoforms is widely expressed with SK1 expression highest in brain, heart, kidney, thymus, spleen and lung, while SK2 is highest in kidney and liver. SKs can be activated through growth factor, G protein-coupled, and immunoglobulin receptor signalling. SK1 has been shown to mediate cell growth, prevention of apoptosis, and cellular transformation, and is upregulated in a variety of human tumors. Regulation of SK1 may occur through ERK mediated phosphorylation of Ser-225. This phosphorylation leads to increased activity and translocation to the plasma membrane.

## References

- Melendez, A.J. et al. (2000) *Gene* 251(1):19.  
 Pitson, S.M. et al. (2005) *J Exp. Med.* 201(1):49.  
 Paugh, B.S. et al. (2008) *FASEB J.* 22(2):455. (WB: Human glioblastoma A172)  
 Miller et al. (2008) *Mol Cell Biol* 28(12):4142 (WB: Human esophageal carcinoma)  
 Shida, D. et al. (2008) *Cancer Res.* 68(16):6569. (WB: Human MNK1 cells + LPA)

## Immunogen:

Phospho-SK1 (Ser-225) synthetic peptide (coupled to carrier protein) corresponding to amino acids surrounding serine 225 in human SK1. This sequence has 4 amino acid differences from mouse and 5 from rat SK1, and is not homologous to sequences in SK2. The conserved site in rat and mouse SK1 is at serine 224.

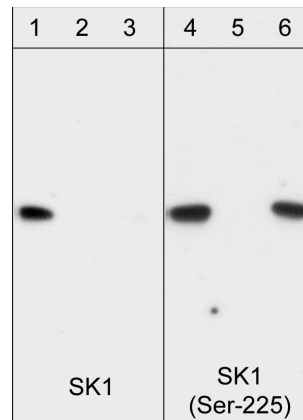
## Applications:

WB 1:1000  
 ELISA 1:2000

End user should determine optimal dilution for their particular applications and experiments. Western blot membranes were incubated with diluted antibody in 5% non-fat milk, PBS, 0.04% Tween20 for 1 hour at room temperature.

## Related Products:

SP1621 Sphingosine Kinase 1 (Central Region) Rabbit Polyclonal  
 SX1645 phospho-SK1 (Ser-225) Peptide  
 SX1625 unphosphorylated SK1 (Ser-225) Peptide  
 SL9161 Sphingosine Kinase 1 + ERK2 Lysate



Western blot image of recombinant his-tagged human SK1 protein that was phosphorylated with ERK-2. Blots were probed with anti-SK1 (Central Region) (SP1621; lanes 1-3) and anti-SK1 (Ser-225) (SP1641; lanes 4-6). Both antibodies were used in the presence of no peptide (lanes 1 & 4), phospho-SK1 (Ser-225) peptide (SX1645; lanes 2 & 5), or unphosphorylated SK1 (Ser-225) peptide (SX1625; lanes 3 & 6).

## Buffer and Storage:

Rabbit polyclonal, affinity-purified antibody is supplied in 100µl phosphate-buffered saline, 50% glycerol, 1 mg/ml BSA, and 0.05% sodium azide. Store at -20°C. Do not aliquot. Stable for 1 year.

## Specificity:

This antibody was cross-adsorbed to non-specific phosphoserine and unphosphorylated SK1 (Ser-225) peptide before affinity purification using phospho-SK1 (Ser-225) peptide. The purified antibody detects a 47 kDa\* full-length recombinant human SK1 protein phosphorylated with ERK2.

\*All molecular weights (MW) are confirmed by comparison to Bio-Rad Rainbow Markers and to western blot mobilities of known proteins with similar MW.

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