

# SPPase2 (K-16): sc-55048

## BACKGROUND

Sphingosine-1-phosphate (S1P) is a lipid that functions in a variety of intracellular and extracellular biological events. The intracellular activity of S1P is regulated by its state of phosphorylation and is therefore controlled by SPP kinases (SphKs) and S1P phosphatases (SPPases). The mammalian SPPases belong to the type 2 lipid phosphate phosphatase family of N-ethylmaleimide insensitive, magnesium-independent, multi-pass membrane proteins. Characteristic of their family, SPPases contain three conserved motifs that comprise the active site of the enzyme: the SXH motif, the KXXXXXRP motif and the SRXXXXHXXD motif. SPPase2, also known as SGPP2 or SPP2, localizes to the membrane of the endoplasmic reticulum (ER) and is predominantly expressed in kidney and heart with lower levels found in colon, lung, brain and small intestine. SPPase2 specifically dephosphorylates S1P, dihydro-S1P and phyto-S1P. The overexpression of SPPases can lead to an elevation in the levels of ceramide and can induce apoptosis.

## REFERENCES

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## CHROMOSOMAL LOCATION

Genetic locus: SGPP2 (human) mapping to 2q36.1; Sgpp2 (mouse) mapping to 1 C4.

## SOURCE

SPPase2 (K-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of SPPase2 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-55048 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

SPPase2 (K-16) is recommended for detection of SPPase2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

SPPase2 (K-16) is also recommended for detection of SPPase2 in additional species, including equine and porcine.

Suitable for use as control antibody for SPPase2 siRNA (h): sc-63062, SPPase2 siRNA (m): sc-63063, SPPase2 shRNA Plasmid (h): sc-63062-SH, SPPase2 shRNA Plasmid (m): sc-63063-SH, SPPase2 shRNA (h) Lentiviral Particles: sc-63062-V and SPPase2 shRNA (m) Lentiviral Particles: sc-63063-V.

Molecular Weight of SPPase2 isoforms: 45/30 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## STORAGE

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

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.