SANTA CRUZ BIOTECHNOLOGY, INC.

SPP (N-16): sc-34950

BACKGROUND

The endoplasmic reticulum exerts a quality control over newly synthesized proteins and a variety of components have been implicated in the specific recognition of aberrant or misfolded polypeptides. Signal peptide peptidase (SPP) catalyzes intramembrane proteolysis of some signal peptides after they have been cleaved from a preprotein, resulting in the release of the fragment from the ER membrane into the cytoplasm. SPP is required to generate lymphocyte cell surface (HLA-E) epitopes derived from MHC class I signal peptides, and may play a role in graft rejection. It also may be necessary for the removal of the signal peptide that remains attached to the hepatitis C virus core protein after the initial proteolytic processing of the polyprotein.

REFERENCES

1. Crawshaw, S.G., et al. 2004. A misassembled transmembrane domain of a polytopic protein associates with signal peptide peptidase. Biochem. J. 384: 9-17.
2. Nyborg, A.C., et al. 2004. A signal peptide peptidase (SPP) reporter activity assay based on the cleavage of type II membrane protein substrates provides further evidence for an inverted orientation of the SPP active site relative to presenilin. J. Biol. Chem. 279: 43148-43156.
3. Friedmann, E., et al. 2004. Consensus analysis of signal peptide peptidase and homologous human aspartic proteases reveals opposite topology of catalytic domains compared with presenilins. J. Biol. Chem. 279: 50790-50798.
4. Okamoto, K., et al. 2004. Intramembrane proteolysis and endoplasmic reticulum retention of hepatitis C virus core protein. J. Virol. 78: 6370-6380.
5. Casso, D.J., et al. 2005. *Drosophila* signal peptide peptidase is an essential protease for larval development. Genetics 170: 139-148.
6. Majeau, N., et al. 2005. Signal peptide peptidase promotes the formation of hepatitis C virus non-enveloped particles and is captured on the viral membrane during assembly. J. Gen. Virol. 86: 3055-3064.

CHROMOSOMAL LOCATION

Genetic locus: HM13 (human) mapping to 20q11.21; H13 (mouse) mapping to 2 H1.

SOURCE

SPP (N-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of SPP 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-34950 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

SPP (N-16) is recommended for detection of Signal Peptide Peptidase 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).

SPP (N-16) is also recommended for detection of Signal Peptide Peptidase in additional species, including equine, canine and bovine.

Suitable for use as control antibody for SPP siRNA (h): sc-45549, SPP siRNA (m): sc-45550, SPP shRNA Plasmid (h): sc-45549-SH, SPP shRNA Plasmid (m): sc-45550-SH, SPP shRNA (h) Lentiviral Particles: sc-45549-V and SPP shRNA (m) Lentiviral Particles: sc-45550-V.

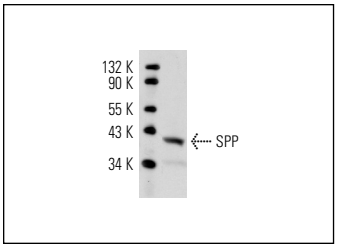
Molecular Weight of SPP: 41 kDa.

Positive Controls: MIA PaCa-2 cell lysate: sc-2285.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



SPP (N-16): sc-34950. Western blot analysis of SPP expression in MIA PaCa-2 whole cell lysate.

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.