SANTA CRUZ BIOTECHNOLOGY, INC.

SPPL2b (N-13): sc-132848

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The Power to Question

BACKGROUND

SPPL2b (signal peptide peptidase-like 2b), also known as PSL1 or IMP4 (intramembrane protease 4), is a 592 amino acid multi-pass membrane protein that contains one protease associated domain and belongs to the GXGD family of aspartic proteases. Localized to the membrane of the Golgi apparatus and to lysosomes, endosomes and the plasma membrane, SPPL2b functions as an intramembrane protease that specifically cleaves the transmembrane domain of TNFα. Once cleaved, TNFα releases its intracellular domain, thus triggering the immunity-related expression of cytokines (also known as interleukins) which are used in various pathways throughout the body. SPPL2b also interacts with and catalyzes the intramembrane proteolysis of ITM2B (integral membrane protein 2B), a protein that, when mutated, is associated with dementia. Four isoforms of SPPL2b exist due to alternative splicing events.

REFERENCES

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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. Krawitz, P., et al. 2005. Differential localization and identification of a critical aspartate suggest non-redundant proteolytic functions of the presenilin homologues SPPL2b and SPPL3. J. Biol. Chem. 280: 39515-39523.
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CHROMOSOMAL LOCATION

Genetic locus: SPPL2B (human) mapping to 19p13.3; Sppl2b (mouse) mapping to 10 C1.

SOURCE

SPPL2b (N-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an N-terminal cytoplasmic domain of SPPL2b 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-132848 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

SPPL2b (N-13) is recommended for detection of SPPL2b isoforms 1-4 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); non cross-reactive with SPPL2a.

SPPL2b (N-13) is also recommended for detection of SPPL2b isoforms 1-4 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for SPPL2b siRNA (h): sc-97546, SPPL2b siRNA (m): sc-153780, SPPL2b shRNA Plasmid (h): sc-97546-SH, SPPL2b shRNA Plasmid (m): sc-153780-SH, SPPL2b shRNA (h) Lentiviral Particles: sc-97546-V and SPPL2b shRNA (m) Lentiviral Particles: sc-153780-V.

Molecular Weight of SPPL2b: 65 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204.

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 or our catalog for detailed protocols and support products.