

SPPL2b (F-19): sc-102122

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 TNF α . Once cleaved, TNF α 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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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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6. Friedmann, E., et al. 2006. SPPL2a and SPPL2b promote intramembrane proteolysis of TNF α in activated dendritic cells to trigger IL-12 production. *Nat. Cell Biol.* 8: 843-848.
7. Fluhrer, R., et al. 2006. A γ -secretase-like intramembrane cleavage of TNF α by the GxGD aspartyl protease SPPL2b. *Nat. Cell Biol.* 8: 894-896.
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CHROMOSOMAL LOCATION

Genetic locus: SPPL2B (human) mapping to 19p13.3.

SOURCE

SPPL2b (F-19) is a purified rabbit polyclonal antibody raised against SPPL2b of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 50 μ g IgG in 500 μ l PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

APPLICATIONS

SPPL2b (F-19) is recommended for detection of SPPL2b of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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

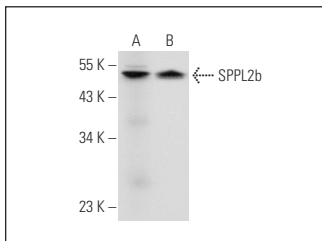
Molecular Weight of SPPL2b: 65 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

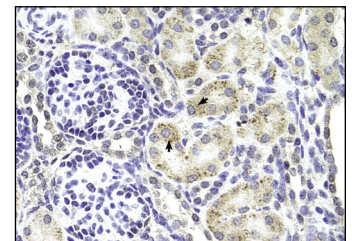
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



SPPL2b (F-19): sc-102122. Western blot analysis of SPPL2b expression in mouse thymus tissue extract (A) and HeLa whole cell lysate (B).



SPPL2b (F-19): sc-102122. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining.

STORAGE

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