

SMPDL3B (B-1): sc-376870

BACKGROUND

SMPDL3B (sphingomyelin phosphodiesterase, acid-like 3B), also known as ASMLPD or ASML3B (acid sphingomyelinase-like phosphodiesterase 3B), is a 455 amino acid secreted protein belonging to the acid sphingomyelinase family. It is expressed in granulosa cells of the ovarian follicle and is a homolog of ASM (acid sphingomyelinase). ASM is a lysosomal protein that hydrolyzes sphingomyelin to ceramide and phosphocholine playing an important role in apoptosis of germ cell lines. Deficiency of ASM is associated with type A and type B Niemann-Pick disease. Type A is a fatal neurodegenerative disorder seen in infancy and resulting in death by age three, whereas type B is a non-neuropathic disease with a later onset.

REFERENCES

1. Quintern, L.E., et al. 1987. Acid sphingomyelinase from human urine: purification and characterization. *Biochim. Biophys. Acta* 922: 323-336.
2. Schuchman, E.H., et al. 1991. Human acid sphingomyelinase. Isolation, nucleotide sequence and expression of the full-length and alternatively spliced cDNAs. *J. Biol. Chem.* 266: 8531-8539.
3. Levran, O., et al. 1991. Niemann-Pick disease: a frequent missense mutation in the acid sphingomyelinase gene of Ashkenazi Jewish type A and B patients. *Proc. Natl. Acad. Sci. USA* 88: 3748-3752.
4. Takahashi, T., et al. 1992. Identification and expression of five mutations in the human acid sphingomyelinase gene causing types A and B Niemann-Pick disease. Molecular evidence for genetic heterogeneity in the neuropathic and non-neuropathic forms. *J. Biol. Chem.* 267: 12552-12558.
5. Langmann, T., et al. 1999. Transcription factors Sp1 and AP-2 mediate induction of acid sphingomyelinase during monocytic differentiation. *J. Lipid Res.* 40: 870-880.
6. Perosa, F., et al. 2006. Generation of biologically active linear and cyclic peptides has revealed a unique fine specificity of rituximab and its possible cross-reactivity with acid sphingomyelinase-like phosphodiesterase 3b precursor. *Blood* 107: 1070-1077.
7. Rizzolio, F., et al. 2007. Epigenetic control of the critical region for premature ovarian failure on autosomal genes translocated to the X chromosome: a hypothesis. *Hum. Genet.* 121: 441-450.

CHROMOSOMAL LOCATION

Genetic locus: SMPDL3B (human) mapping to 1p35.3; Smpdl3b (mouse) mapping to 4 D2.3.

SOURCE

SMPDL3B (B-1) is a mouse monoclonal antibody raised against amino acids 196-271 mapping within an internal region of SMPDL3B of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ lambda light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

SMPDL3B (B-1) is recommended for detection of SMPDL3B of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for SMPDL3B siRNA (h): sc-76525, SMPDL3B siRNA (m): sc-76526, SMPDL3B shRNA Plasmid (h): sc-76525-SH, SMPDL3B shRNA Plasmid (m): sc-76526-SH, SMPDL3B shRNA (h) Lentiviral Particles: sc-76525-V and SMPDL3B shRNA (m) Lentiviral Particles: sc-76526-V.

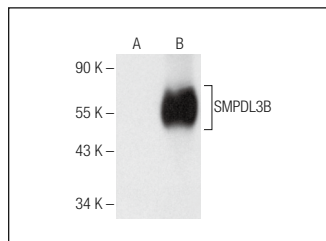
Molecular Weight of SMPDL3B: 51 kDa.

Positive Controls: SMPDL3B (m2): 293T Lysate: sc-126022.

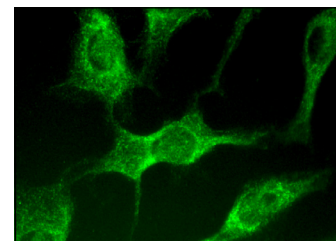
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGλ BP-HRP: sc-516132 or m-IgGλ BP-HRP (Cruz Marker): sc-516132-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGλ BP-FITC: sc-516185 or m-IgGλ BP-PE: sc-516186 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



SMPDL3B (B-1): sc-376870. Western blot analysis of SMPDL3B expression in non-transfected: sc-117752 (A) and mouse SMPDL3B transfected: sc-126022 (B) 293T whole cell lysates.



SMPDL3B (B-1): sc-376870. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing cytoplasmic localization.

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 for detailed protocols and support products.