

SMPD1 Antibody (C-term)
Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP12227b

Specification

SMPD1 Antibody (C-term) - Product Information

Application	IHC-P-Leica, WB, FC,E
Primary Accession	P17405
Other Accession	Q0VD19 , NP_000534.3
Reactivity	Human
Predicted	Bovine
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Antigen Region	391-419

SMPD1 Antibody (C-term) - Additional Information

Gene ID 6609

Other Names

Sphingomyelin phosphodiesterase, Acid sphingomyelinase, aSMase, SMPD1, ASM

Target/Specificity

This SMPD1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 391-419 amino acids from the C-terminal region of human SMPD1.

Dilution

IHC-P-Leica~~1:500

WB~~1:4000

FC~~1:25

E~~Use at an assay dependent concentration.

Format

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

Storage

Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions

SMPD1 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

SMPD1 Antibody (C-term) - Protein Information

Name SMPD1 ([HGNC:11120](#))

Function Converts sphingomyelin to ceramide (PubMed:[12563314](#), PubMed:[1840600](#), PubMed:[18815062](#), PubMed:[25339683](#), PubMed:[25920558](#), PubMed:[27659707](#), PubMed:[33163980](#)). Exists as two enzymatic forms that arise from alternative trafficking of a single protein precursor, one that is targeted to the endolysosomal compartment, whereas the other is released extracellularly (PubMed:[20807762](#), PubMed:[21098024](#), PubMed:[9660788](#)). However, in response to various forms of stress, lysosomal exocytosis may represent a major source of the secretory form (PubMed:[12563314](#), PubMed:[20530211](#), PubMed:[20807762](#), PubMed:[22573858](#), PubMed:[9393854](#)).

Cellular Location

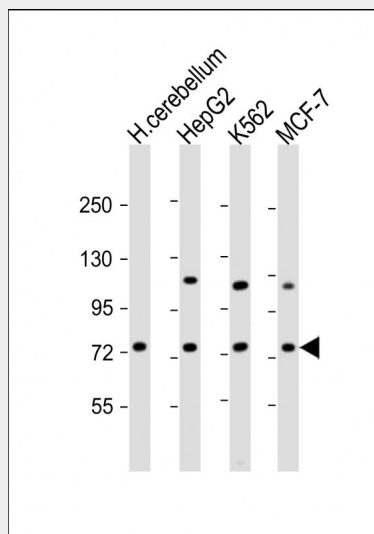
Lysosome. Lipid droplet. Secreted. Note=The secreted form is induced in a time- and dose-dependent by IL1B and TNF as well as stress and viral infection. This increase of the secreted form seems to be due to exocytosis of the lysosomal form and is Ca(2+)-dependent (PubMed:20530211, PubMed:20807762, PubMed:22573858). Secretion is dependent of phosphorylation at Ser-510 (PubMed:17303575). Secretion is induced by inflammatory mediators such as IL1B, IFNG or TNF as well as infection with bacteria and viruses (PubMed:12563314, PubMed:20807762)

SMPD1 Antibody (C-term) - Protocols

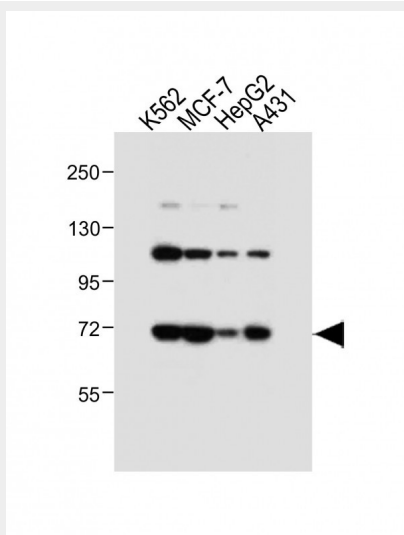
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

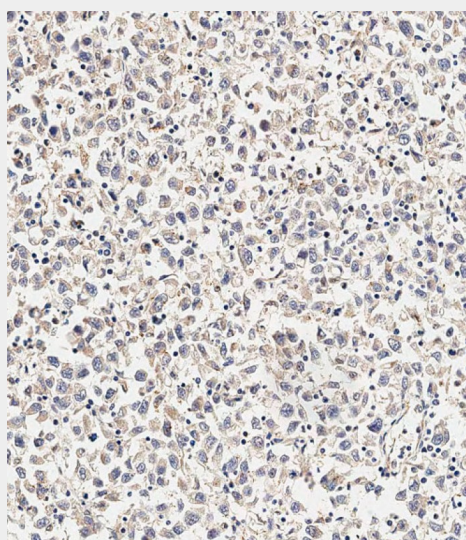
SMPD1 Antibody (C-term) - Images



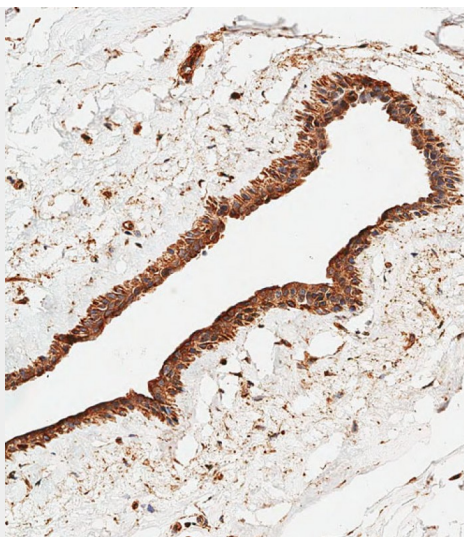
All lanes : Anti-SMPD1 Antibody (S376) at 1:2000 dilution Lane 1: human cerebellum lysate Lane 2: HepG2 whole cell lysate Lane 3: K562 whole cell lysate Lane 4: MCF-7 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 70 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



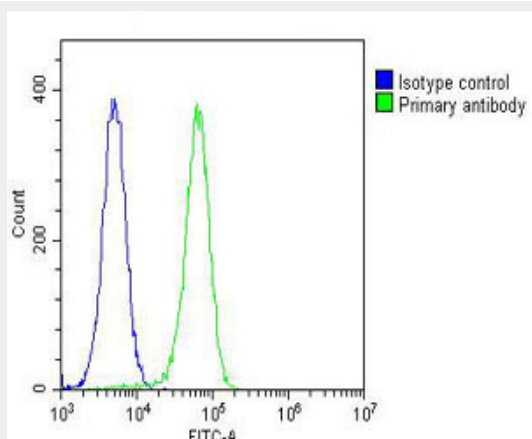
All lanes : Anti-SMPD1 Antibody (C-term) at 1:4000 dilution Lane 1: K562 whole cell lysate Lane 2: MCF-7 whole cell lysate Lane 3: HepG2 whole cell lysate Lane 4: A431 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 70 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



Immunohistochemical analysis of paraffin-embedded Human testis carcinoma tissue using AP12227B performed on the Leica® BOND RXm. Tissue was fixed with formaldehyde at room temperature, antigen retrieval was by heat mediation with a EDTA buffer (pH9. 0). Samples were incubated with primary antibody(1:500) for 1 hours at room temperature. A undiluted biotinylated CRF Anti-Polyvalent HRP Polymer antibody was used as the secondary antibody.



Immunohistochemical analysis of paraffin-embedded Human breast tissue using AP12227B performed on the Leica® BOND RXm. Tissue was fixed with formaldehyde at room temperature, antigen retrieval was by heat mediation with a EDTA buffer (pH9.0). Samples were incubated with primary antibody(1:500) for 1 hours at room temperature. A undiluted biotinylated CRF Anti-Polyvalent HRP Polymer antibody was used as the secondary antibody.



Overlay histogram showing K562 cells stained with AP12227b (green line). The cells were fixed with 2% paraformaldehyde (10 min) and then permeabilized with 90% methanol for 10 min. The cells were then incubated in 2% bovine serum albumin to block non-specific protein-protein interactions followed by the antibody (AP12227b, 1:25 dilution) for 60 min at 37°C. The secondary antibody used was Goat-Anti-Rabbit IgG, DyLight® 488 Conjugated Highly Cross-Adsorbed(OH191631) at 1/200 dilution for 40 min at 37°C. Isotype control antibody (blue line) was rabbit IgG (1µg/1x10⁶ cells) used under the same conditions. Acquisition of >10,000 events was performed.

SMPD1 Antibody (C-term) - Background

The protein encoded by this gene is a lysosomal acid sphingomyelinase that converts sphingomyelin to ceramide. The encoded protein also has phospholipase C activity. Defects in this gene are a cause of Niemann-Pick disease type A (NPA) and Niemann-Pick disease type B (NPB). Multiple transcript variants encoding different isoforms have been identified. [provided by RefSeq].

SMPD1 Antibody (C-term) - References

Bailey, S.D., et al. Diabetes Care 33(10):2250-2253(2010) Desnick, J.P., et al. Mol. Med. 16 (7-8),

316-321 (2010) : Talmud, P.J., et al. Am. J. Hum. Genet. 85(5):628-642(2009) Sugiyama, N., et al. Mol. Cell Proteomics 6(6):1103-1109(2007) Sleat, D.E., et al. Mol. Cell Proteomics 5(4):686-701(2006)

SMPD1 Antibody (C-term) - Citations

- [Sphingosine mediates TNF \$\alpha\$ -induced lysosomal membrane permeabilization and ensuing programmed cell death in hepatoma cells.](#)