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SGPP1 Antibody (N-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP13228a

Product Information

Application	IHC-P-Leica, WB, E
Primary Accession	Q9BX95
Other Accession	NP_110418.1
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB33048
Calculated MW	49108
Antigen Region	13-42

Additional Information

Gene ID	81537
Other Names	Sphingosine-1-phosphate phosphatase 1, SPPase1, Spp1, hSPP1, hSPPase1, 313-, Sphingosine-1-phosphatase 1, SGPP1
Target/Specificity	This SGPP1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 13-42 amino acids from the N-terminal region of human SGPP1.
Dilution	IHC-P-Leica~~1:500 WB~~1:1000 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	SGPP1 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	SGPP1 (HGNC:17720)
Function	Specifically dephosphorylates sphingosine 1-phosphate (S1P), dihydro-S1P, and phyto-S1P. Does not act on ceramide 1-phosphate, lysophosphatidic acid

	or phosphatidic acid (PubMed:16782891). Sphingosine-1-phosphate phosphatase activity is needed for efficient recycling of sphingosine into the sphingolipid synthesis pathway (PubMed:11756451, PubMed:12815058, PubMed:16782891). Regulates the intracellular levels of the bioactive sphingolipid metabolite S1P that regulates diverse biological processes acting both as an extracellular receptor ligand or as an intracellular second messenger (PubMed:11756451, PubMed:12815058, PubMed:16782891). Involved in efficient ceramide synthesis from exogenous sphingoid bases. Converts S1P to sphingosine, which is readily metabolized to ceramide via ceramide synthase. In concert with sphingosine kinase 2 (SphK2), recycles sphingosine into ceramide through a phosphorylation/dephosphorylation cycle (By similarity). Regulates endoplasmic-to-Golgi trafficking of ceramides, resulting in the regulation of ceramide levels in the endoplasmic reticulum, preferentially long-chain ceramide species, and influences the anterograde membrane transport of both ceramide and proteins from the endoplasmic reticulum to the Golgi apparatus (PubMed:16782891). The modulation of intracellular ceramide levels in turn regulates apoptosis (By similarity). Via S1P levels, modulates resting tone, intracellular Ca(2+) and myogenic vasoconstriction in resistance arteries (PubMed:18583713). Also involved in unfolded protein response (UPR) and ER stress-induced autophagy via regulation of intracellular S1P levels (PubMed:18583713, PubMed:20798685). Involved in the regulation of epidermal homeostasis and keratinocyte differentiation (By similarity).
Cellular Location	Endoplasmic reticulum membrane; Multi-pass membrane protein. Cell membrane {ECO:0000250|UniProtKB:Q9JI99}; Multi-pass membrane protein
Tissue Location	Ubiquitous, with the strongest level in placenta and kidney.

Background

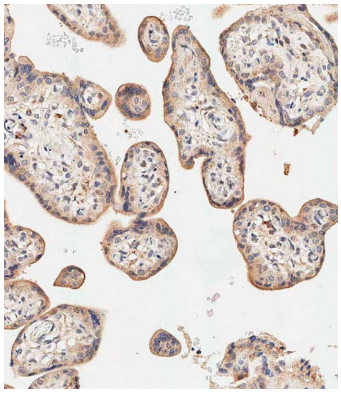
Sphingosine-1-phosphate (S1P) is a bioactive sphingolipid metabolite that regulates diverse biologic processes. SGPP1 catalyzes the degradation of S1P via salvage and recycling of sphingosine into long-chain ceramides (Mandala et al., 2000 [PubMed 10859351]; Le Stunff et al., 2007 [PubMed 17895250]).[supplied by OMIM].

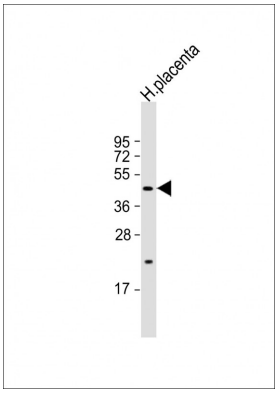
References

Hicks, A.A., et al. PLoS Genet. 5 (10), E1000672 (2009) :
Le Stunff, H., et al. J. Biol. Chem. 282(47):34372-34380(2007)
Sugiyama, N., et al. Mol. Cell Proteomics 6(6):1103-1109(2007)
Olsen, J.V., et al. Cell 127(3):635-648(2006)
Giussani, P., et al. Mol. Cell. Biol. 26(13):5055-5069(2006)

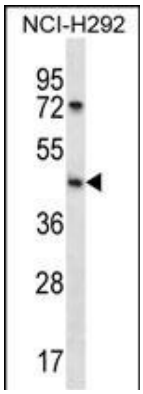
Images

Immunohistochemical analysis of paraffin-embedded human placenta tissue using AP13228A 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.





Anti-SGPP1 Antibody (N-term) at 1:1000 dilution + human placenta lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 49 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



SGPP1 Antibody (N-term) (Cat. #AP13228a) western blot analysis in NCI-H292 cell line lysates (35ug/lane).This demonstrates the SGPP1 antibody detected the SGPP1 protein (arrow).



SGPP1 Antibody (N-term) (Cat. #AP13228a)immunohistochemistry analysis in formalin fixed and paraffin embedded human placenta tissue followed by peroxidase conjugation of the secondary antibody and DAB staining.This data demonstrates the use of SGPP1 Antibody (N-term) for immunohistochemistry. Clinical relevance has not been evaluated.

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