

ASAH1 / Acid Ceramidase Antibody (clone 1A7) Mouse Monoclonal Antibody Catalog # ALS14312

Specification

ASAH1 / Acid Ceramidase Antibody (clone 1A7) - Product Information

Application Primary Accession Reactivity Host Clonality Calculated MW WB <u>Q13510</u> Human Mouse Monoclonal 45kDa KDa

ASAH1 / Acid Ceramidase Antibody (clone 1A7) - Additional Information

Gene ID 427

Other Names Acid ceramidase, AC, ACDase, Acid CDase, 3.5.1.23, Acylsphingosine deacylase, N-acylsphingosine amidohydrolase, Putative 32 kDa heart protein, PHP32, Acid ceramidase subunit alpha, Acid ceramidase subunit beta, ASAH1, ASAH

Target/Specificity Human ASAH1

Reconstitution & Storage Store at -20°C or lower. Aliquot to avoid repeated freezing and thawing.

Precautions ASAH1 / Acid Ceramidase Antibody (clone 1A7) is for research use only and not for use in diagnostic or therapeutic procedures.

ASAH1 / Acid Ceramidase Antibody (clone 1A7) - Protein Information

Name ASAH1 (HGNC:735)

Synonyms ASAH

Function

Lysosomal ceramidase that hydrolyzes sphingolipid ceramides into sphingosine and free fatty acids at acidic pH (PubMed:10610716, PubMed:7744740, PubMed:15655246, PubMed:11451951). Ceramides, sphingosine, and its phosphorylated form sphingosine-1-phosphate are bioactive lipids that mediate cellular signaling pathways regulating several biological processes including cell proliferation, apoptosis and differentiation (PubMed:10610716). Has a higher



catalytic efficiency towards C12-ceramides versus other ceramides (PubMed:7744740, PubMed:15655246). Also catalyzes the reverse reaction allowing the synthesis of ceramides from fatty acids and sphingosine (PubMed:<a href="http://www.uniprot.org/citations/12764132"

target="_blank">12764132, PubMed:12815059). For the reverse synthetic reaction, the natural sphingosine D-erythro isomer is more efficiently utilized as a substrate compared to

D-erythro-dihydrosphingosine and D-erythro- phytosphingosine, while the fatty acids with chain lengths of 12 or 14 carbons are the most efficiently used (PubMed:12764132). Has also an N- acylethanolamine hydrolase activity (PubMed:15655246). By regulating the levels of ceramides, sphingosine and sphingosine-1-phosphate in the epidermis, mediates the calcium-induced differentiation of epidermal keratinocytes (PubMed:17713573). Also indirectly regulates tumor necrosis factor/TNF-induced apoptosis (By similarity). By regulating the intracellular balance between ceramides and sphingosine, in adrenocortical cells, probably also acts as a regulator of steroidogenesis (PubMed:22261821).

Cellular Location

Lysosome. Secreted. Note=Secretion is extremely low and localization to lysosomes is mannose-6-phosphate receptor-dependent

Tissue Location Broadly expressed with higher expression in heart.

ASAH1 / Acid Ceramidase Antibody (clone 1A7) - Protocols

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

- <u>Western Blot</u>
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- <u>Cell Culture</u>

ASAH1 / Acid Ceramidase Antibody (clone 1A7) - Images





Western blot of ASAH1 expression in transfected 293T cell line.

ASAH1 / Acid Ceramidase Antibody (clone 1A7) - Background

Hydrolyzes the sphingolipid ceramide into sphingosine and free fatty acid.

ASAH1 / Acid Ceramidase Antibody (clone 1A7) - References

Koch J., et al.J. Biol. Chem. 271:33110-33115(1996). Churchill J.R., et al.Mol. Biol. Cell 6:418-418(1995). Wieland S.J., et al.Submitted (NOV-1998) to the EMBL/GenBank/DDBJ databases. Fan M.M., et al.Submitted (MAY-2003) to the EMBL/GenBank/DDBJ databases. Zhang Z., et al.Mol. Genet. Metab. 70:301-309(2000).