

ASAH1 Protein, Human (His-SUMO)

Cat. No.:	HY-P71541
Synonyms:	AC; ACDase; Acid CDase; Acid ceramidase; Acid ceramidase precursor; Acid ceramidase subunit beta; Acylsphingosine deacylase; ASAH 1; ASAH; ASAH1; ASAH1_HUMAN; FLJ21558; FLJ22079; N acylsphingosine amidohydrolase (acid ceramidase) 1; N acylsphingosine amidohydrolase 1;
Species:	Human
Source:	E. coli
Accession:	Q13510 (22Q-395W)
Gene ID:	427
Molecular Weight:	Approximately 58.7 kDa

PROPERTIES

AA Sequence	<pre> QHAPPWTEDC RKSTYPPSPG TYRGAVPWYT INLDLPPYKR WHELMLDKAP VLKVI VNSLK NMINTFVPSG KIMQVVDEKL PGLLGNFPGP FEEEMKGI AA VTDIPLGEII SFNIFYELFT ICTSIVAEDK KGHLIHGRNM DFGVFLGWN I NNDTWVITEQ LKPLTVNLDF QRNNKTVFKA SSFAGYVGML TGFKPGLFSL TLNERFSING GYLGILEWIL GKDVDMWIGF LTRTVLENST SYEEAKNLLT KTKILAPAYF ILGGNQSGEG CVITRDRKES LDVYELDAKQ GRWYVVQTN Y DRWKHPFFLD DRRTPAKMCL NRTSQENISF ETMYDVLSTK PVLNKLTVYT TLIDVTKGQF ETYL RDC PDP CIGW </pre>
Biological Activity	The enzyme activity of this recombinant protein is testing in progress, we cannot offer a guarantee yet.
Appearance	Lyophilized powder.
Formulation	Lyophilized after extensive dialysis against solution in 10 mM Tris-HCl, 1 mM EDTA, 6% Trehalose, pH 8.0.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH ₂ O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background

ASAH1, a lysosomal ceramidase, functions in sphingolipid metabolism by hydrolyzing sphingolipid ceramides into sphingosine and free fatty acids under acidic pH conditions. Ceramides, sphingosine, and sphingosine-1-phosphate are bioactive lipids that play crucial roles in cellular signaling pathways governing processes such as cell proliferation, apoptosis, and differentiation. ASAH1 exhibits higher catalytic efficiency towards C12-ceramides compared to other ceramides and can also catalyze the reverse reaction, synthesizing ceramides from fatty acids and sphingosine. In this synthetic reaction, the natural sphingosine D-erythro isomer is more efficiently utilized, with fatty acids of chain lengths 12 or 14 carbons being the most effective substrates. Additionally, ASAH1 displays N-acylethanolamine hydrolase activity. By regulating ceramide, sphingosine, and sphingosine-1-phosphate levels, ASAH1 mediates calcium-induced differentiation of epidermal keratinocytes. It indirectly regulates tumor necrosis factor (TNF)-induced apoptosis and, in adrenocortical cells, likely serves as a regulator of steroidogenesis by maintaining the intracellular balance between ceramides and sphingosine. Furthermore, ASAH1 may directly impact steroidogenesis by binding to the nuclear receptor NR5A1 and negatively regulating its transcriptional activity.

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA