SANTA CRUZ BIOTECHNOLOGY, INC.

ASAHL (N-14): sc-104082

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

ASAHL (N-acylsphingosine amidohydrolase (acid ceramidase)-like), also known as PLT or NAAA (N-acylethanolamine-hydrolyzing acid amidase), is a member of the choloylglycine hydrolase family and is widely expressed with predominant levels found in kidney and liver. ASAHL is structurally and functionally similar to Acid Ceramidase but exhibits low ceramide-hydrolyzing activity. Localizing to lysosomes, ASAHL functions in the hydrolyzation of bioactive N-acylethanolamines (NAEs) to ethanolamine and free fatty acids. Unlike FAAH (another NAE-hydrolyzing enzyme), ASAHL operates at an optimal pH of 4.5-5 and, once cleaved to its active form, exhibits a preference for N-palmitoylethanolamine and anandamide (N-arachidonoylethanolamine). ASAHL contains four glycosylation sites that are essential for stabilization of the enzyme and its activity is activated by dithiothreitol (DTT) and Triton X-100.

REFERENCES

1. Hong, S.B., et al. 1999. Molecular cloning and characterization of a human cDNA and gene encoding a novel Acid Ceramidase-like protein. Genomics 62: 232-241.
2. Puffenbarger, R.A. 2005. Molecular biology of the enzymes that degrade endocannabinoids. Curr. Drug Targets CNS Neurol. Disord. 4: 625-631.
3. Sun, Y.X., et al. 2005. Involvement of N-acylethanolamine-hydrolyzing acid amidase in the degradation of anandamide and other N-acylethanolamines in macrophages. Biochim. Biophys. Acta 1736: 211-220.
4. Tsuboi, K., et al. 2005. Molecular characterization of N-acylethanolamine-hydrolyzing acid amidase, a novel member of the choloylglycine hydrolase family with structural and functional similarity to Acid Ceramidase. J. Biol. Chem. 280: 11082-11092.
5. Astarita, G., et al. 2006. Pharmacological characterization of hydrolysis-resistant analogs of oleoylethanolamide with potent anorexiant properties. J. Pharmacol. Exp. Ther. 318: 563-570.
6. Tsuboi, K., et al. 2007. The N-acylethanolamine-hydrolyzing acid amidase (NAAA). Chem. Biodivers. 4: 1914-1925.
7. Tsuboi, K., et al. 2007. Predominant expression of lysosomal N-acylethanolamine-hydrolyzing acid amidase in macrophages revealed by immunochemical studies. Biochim. Biophys. Acta 1771: 623-632.
8. Zhao, L.Y., et al. 2007. Proteolytic activation and glycosylation of N-acylethanolamine-hydrolyzing acid amidase, a lysosomal enzyme involved in the endocannabinoid metabolism. Biochim. Biophys. Acta 1771: 1397-1405.

CHROMOSOMAL LOCATION

Genetic locus: NAAA (human) mapping to 4q21.1.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

SOURCE

ASAHL (N-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of ASAHL of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-104082 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

ASAHL (N-14) is recommended for detection of ASAHL of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 ASAHL siRNA (h): sc-88929, ASAHL shRNA Plasmid (h): sc-88929-SH and ASAHL shRNA (h) Lentiviral Particles: sc-88929-V.

Molecular Weight of ASAHL precursor: 48 kDa.

Molecular Weight of cleaved form ASAHL: 30 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

For research use only, not for use in diagnostic procedures.