SANTA CRUZ BIOTECHNOLOGY, INC.

ASAHL (A19): sc-100470

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. 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.

CHROMOSOMAL LOCATION

Genetic locus: NAAA (human) mapping to 4q21.1; Naaa (mouse) mapping to 5 E2.

SOURCE

ASAHL (A19) is a mouse monoclonal antibody raised against recombinant ASAHL of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

ASAHL (A19) is recommended for detection of ASAHL of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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 siRNA (m): sc-105096, ASAHL shRNA Plasmid (h): sc-88929-SH, ASAHL shRNA Plasmid (m): sc-105096-SH, ASAHL shRNA (h) Lentiviral Particles: sc-88929-V and ASAHL shRNA (m) Lentiviral Particles: sc-105096-V.

Molecular Weight of ASAHL precursor: 48 kDa.

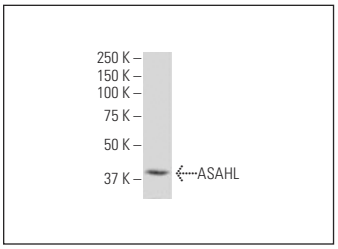
Molecular Weight of ASAHL cleaved form: 30 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210.

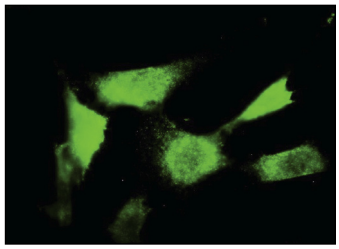
STORAGE

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

DATA



ASAHL (A19): sc-100470. Western blot analysis of ASAHL expression in NIH/3T3 whole cell lysate.



ASAHL (A19): sc-100470. Immunofluorescence staining of paraformaldehyde-fixed NIH/3T3 cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Martin, G.G., et al. 2016. Female mice are resistant to FABP-1 gene ablation-induced alterations in brain endocannabinoid levels. Lipids 51: 1007-1020.
2. Martin, G.G., et al. 2016. FABP-1 gene ablation impacts brain endocannabinoid system in male mice. J. Neurochem. 138: 407-422.
3. Huang, H., et al. 2016. FABP1: a novel hepatic endocannabinoid and cannabinoid binding protein. Biochemistry 55: 5243-5255.
4. Martin, G.G., et al. 2017. Loss of fatty acid binding protein-1 alters the hepatic endocannabinoid system response to a high-fat diet. J. Lipid Res. 58: 2114-2126.
5. Martin, G.G., et al. 2017. FABP1 gene ablation inhibits high-fat diet-induced increase in brain endocannabinoids. J. Neurochem. 140: 294-306.
6. Martin, G.G., et al. 2018. Human liver fatty acid binding protein-1 T94A variant, nonalcohol fatty liver disease, and hepatic endocannabinoid system. Lipids 53: 27-40.
7. Martin, G.G., et al. 2018. Scp-2/Scp-x ablation in FABP1 null mice differentially impacts hepatic endocannabinoid level depending on dietary fat. Arch. Biochem. Biophys. 650: 93-102.
8. McIntosh, A.L., et al. 2018. Impact of FABP1 gene ablation on uptake and degradation of endocannabinoids in mouse hepatocytes. Lipids 53: 561-580.
9. Martin, G.G., et al. 2019. Sterol carrier protein-2/sterol carrier protein-x/fatty acid binding protein-1 ablation impacts response of brain endocannabinoid to high-fat diet. Lipids 54: 583-601.
10. Zhan, X., et al. 2020. Joint synovial fluid metabolomics method to decipher the metabolic mechanisms of adjuvant arthritis and geniposide intervention. J. Proteome Res. 19: 3769-3778.

RESEARCH USE

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