SANTA CRUZ BIOTECHNOLOGY, INC.

ASAH3 (N-20): sc-101848



BACKGROUND

ASAH3 (N-acylsphingosine amidohydrolase (alkaline ceramidase) 3), also designated ACER1, is a 264 amino acid multi-pass membrane protein that localizes to the membrane of the endoplasmic reticulum. Expressed predominately in epidermal tissue, ASAH3 catalyzes the hydrolysis of the sphingo-lipid ceramide into sphingosine and a free fatty acid, thereby playing an important role in the regulation of bioactive ceramide and sphingosine levels within the cell. ASAH3 functions at an optimal pH of 8.0 and has high spe-cificity for the natural stereoisomer of ceramide with D-erythro-sphingosine, but not D-ribo-phytosphingosine or D-erythro-dihydrosphingosine as a backbone.

REFERENCES

- Mao, C., Xu, R., Szulc, Z.M., Bielawski, J., Becker, K.P., Bielawska, A., Galadari, S.H., Hu, W. and Obeid, L.M. 2003. Cloning and characterization of a mouse endoplasmic reticulum alkaline ceramidase: an enzyme that preferentially regulates metabolism of very long chain ceramides. J. Biol. Chem. 278: 31184-31191.
- Houben, E., Holleran, W.M., Yaginuma, T., Mao, C., Obeid, L.M., Rogiers, V., Takagi, Y., Elias, P.M. and Uchida, Y. 2006. Differentiation-associated expression of ceramidase isoforms in cultured keratinocytes and epidermis. J. Lipid Res. 47: 1063-1070.
- Houben, E., Uchida, Y., Nieuwenhuizen, W.F., De Paepe, K., Vanhaecke, T., Holleran, W.M. and Rogiers, V. 2007. Kinetic characteristics of acidic and alkaline ceramidase in human epidermis. Skin Pharmacol. Physiol. 20: 187-194.
- Mao, C. and Obeid, L.M. 2008. Ceramidases: regulators of cellular responses mediated by ceramide, sphingosine, and sphingosine-1phosphate. Biochim. Biophys. Acta 1781: 424-434.
- Zeidan, Y.H., Jenkins, R.W., Korman, J.B., Liu, X., Obeid, L.M., Norris, J.S. and Hannun, Y.A. 2008. Molecular targeting of acid ceramidase: implications to cancer therapy. Curr. Drug Targets 9: 653-661.
- Sun, W., Xu, R., Hu, W., Jin, J., Crellin, H.A., Bielawski, J., Szulc, Z.M., Thiers, B.H., Obeid, L.M. and Mao, C. 2008. Upregulation of the human alkaline ceramidase 1 and acid ceramidase mediates calcium-induced differentiation of epidermal keratinocytes. J. Invest. Dermatol. 128: 389-397.
- Kim, S., Kim, Y., Lee, Y. and Chung, J.H. 2008. Ceramide accelerates ultraviolet (UV)-induced MMP-1 expression through JAK1/Stat-1 pathway in cultured human dermal fibroblasts. J. Lipid Res. 49: 2571-2581.

CHROMOSOMAL LOCATION

Genetic locus: ASAH3 (human) mapping to 19p13.3.

SOURCE

ASAH3 (N-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the N-terminus of ASAH3 of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 100 μg lgG in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

ASAH3 (N-20) is recommended for detection of ASAH3 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for ASAH3 siRNA (h): sc-97592, ASAH3 shRNA Plasmid (h): sc-97592-SH and ASAH3 shRNA (h) Lentiviral Particles: sc-97592-V.

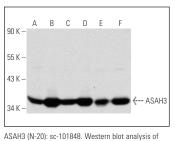
Molecular Weight of ASAH3: 31 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, A-375 cell lysate: sc-3811 or Jurkat whole cell lysate: sc-2204.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker[™] compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz[™] Mounting Medium: sc-24941.

DATA



ASAH3 expression in A-431 (**A**), HeLa (**B**), K-562 (**C**), Jurkat (**D**), SK-MEL-28 (**E**) and A-375 (**F**) whole cell lysates

STORAGE

Store at 4° C, **D0 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.