SANTA CRUZ BIOTECHNOLOGY, INC.

ASM (N-17): sc-9816

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Acid sphingomyelinase (ASM) is a lysosomal protein that hydrolyzes sphingomyelin to ceramide and phosphocholine. The ASM gene encodes three proteins, ASM-1, ASM-2 and ASM-3, of which ASM-1 is the only ASM gene product that is a catalytically active enzyme. Deficiency of ASM is associated with type A and type B Niemann-Pick disease. Type A is a fatal neurodegenerative disorder seen in infancy and resulting in death by age three, whereas type B is a non-neuropathic disease that has a later onset. During monocytic cell differentiation, the expression of ASM is up-regulated by the combined actions of AP-2 and Sp1 transcription factors.

REFERENCES

1. Quintern, L.E., et al. 1987. Acid sphingomyelinase from human urine: purification and characterization. Biochim. Biophys. Acta 922: 323-336.
2. Schuchman, E.H., et al. 1991. Human acid sphingomyelinase. Isolation, nucleotide sequence and expression of the full-length and alternatively spliced cDNAs. J. Biol. Chem. 266: 8531-8539.
3. Levran, O., et al. 1991. Niemann-Pick disease: a frequent missense mutation in the acid sphingomyelinase gene of Ashkenazi Jewish type A and B patients. Proc. Natl. Acad. Sci. USA 88: 3748-3752.
4. Takahashi, T., et al. 1992. Identification and expression of five mutations in the human acid sphingomyelinase gene causing types A and B Niemann-Pick disease. Molecular evidence for genetic heterogeneity in the neuronopathic and non-neuronopathic forms. J. Biol. Chem. 267: 12552-12558.
5. Langmann, T., et al. 1999. Transcription factors Sp1 and AP-2 mediate induction of acid sphingomyelinase during monocytic differentiation. J. Lipid Res. 40: 870-880.

CHROMOSOMAL LOCATION

Genetic locus: SMPD1 (human) mapping to 11p15.4.

SOURCE

ASM (N-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of ASM 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-9816 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

ASM (N-17) is recommended for detection of ASM of 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 ASM siRNA (h): sc-41650, ASM shRNA Plasmid (h): sc-41650-SH and ASM shRNA (h) Lentiviral Particles: sc-41650-V.

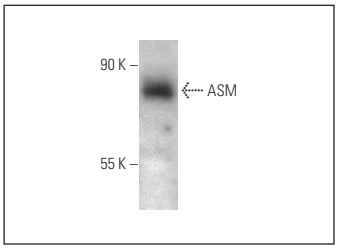
Molecular Weight of ASM: 57/70 kDa.

Positive Controls: U-87 MG cell lysate: sc-2411.

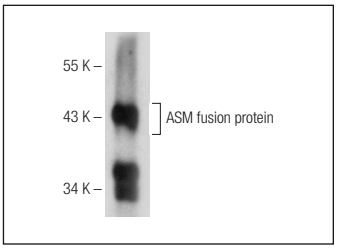
RECOMMENDED SECONDARY REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



ASM (N-17): sc-9816. Western blot analysis of ASM expression in U-87 MG whole cell lysate.



ASM (N-17): sc-9816. Western blot analysis of human recombinant ASM fusion protein.

SELECT PRODUCT CITATIONS

1. Lacour, S., et al. 2004. Cisplatin-induced CD95 redistribution into membrane lipid rafts of HT29 human colon cancer cells. Cancer Res. 64: 3593-3598.
2. Lee, C.Y., et al. 2007. Carboxyl-terminal disulfide bond of acid sphingomyelinase is critical for its secretion and enzymatic function. Biochemistry 46: 14969-14978.

RESEARCH USE

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