SANTA CRUZ BIOTECHNOLOGY, INC.

ASM (H-181): sc-11352

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.

CHROMOSOMAL LOCATION

Genetic locus: SMPD1 (human) mapping to 11p15.4; Smpd1 (mouse) mapping to 7 E3.

SOURCE

ASM (H-181) is a rabbit polyclonal antibody raised against amino acids 1-181 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.

Available as agarose conjugate for immunoprecipitation, sc-11352 AC, 500 µg/0.25 ml agarose in 1 ml.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

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

APPLICATIONS

ASM (H-181) is recommended for detection of ASM 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 ASM siRNA (h): sc-41650, ASM siRNA (m): sc-41651, ASM shRNA Plasmid (h): sc-41650-SH, ASM shRNA Plasmid (m): sc-41651-SH, ASM shRNA (h) Lentiviral Particles: sc-41650-V and ASM shRNA (m) Lentiviral Particles: sc-41651-V.

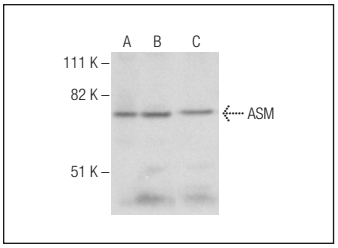
Molecular Weight of ASM: 57/70 kDa.

Positive Controls: A2058 whole cell lysate: sc-364178.

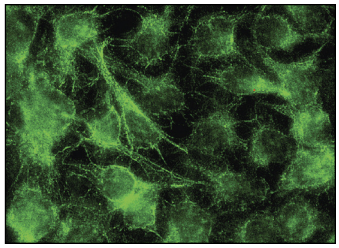
RECOMMENDED SECONDARY REAGENTS

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



ASM (H-181): sc-11352. Western blot analysis of ASM expression in CCD-1064Sk (**A**), CCRF-CEM (**B**) and A2058 (**C**) whole cell lysates.



ASM (H-181): sc-11352. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane and cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Charruyer, A., et al. 2007. PKC ζ protects against UV-C-induced apoptosis by inhibiting acid sphingomyelinase-dependent ceramide production. Biochem. J. 405: 77-83.
2. Bionda, C., et al. 2007. Radioresistance of human carcinoma cells is correlated to a defect in raft membrane clustering. Free Radic. Biol. Med. 43: 681-694.
3. Gassert, E., et al. 2009. Induction of membrane ceramides: a novel strategy to interfere with T lymphocyte cytoskeletal reorganisation in viral immunosuppression. PLoS Pathog. 5: e1000623.
4. Osawa, Y., et al. 2011. Acid sphingomyelinase regulates glucose and lipid metabolism in hepatocytes through AKT activation and AMP-activated protein kinase suppression. FASEB J. 25: 1133-1144.
5. Avota, E., et al. 2011. DC-SIGN mediated sphingomyelinase-activation and ceramide generation is essential for enhancement of viral uptake in dendritic cells. PLoS Pathog. 7: e1001290.