SANTA CRUZ BIOTECHNOLOGY, INC.

Alk-SMase (D-17): sc-49352

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Sphingomyelin (SM) is a lipid that is found in the membranous myelin sheath surrounding nerve cell axons. Sphingomyelin is made up of sphingosine and fatty acids and potentially plays a role in signal transduction. SM hydrolysis is involved in colonic tumorigenesis and cholesterol absorption, and it is also a source of various lipid messengers. It is triggered in a bile salt-dependent manner by intestinal alkaline sphingomyelinase (Alk-SMase), which is expressed in the intestinal mucosa and human bile. Alk-SMase is an ectoenzyme related to the NPP (nucleotide phosphodiesterase) family with five potential N-glycosylation sites and integral membrane domains at each termini. Trypsin cleaves Alk-SMase at its C-terminus, thereby releasing it from the mucosa and enhancing its activity. In the colon, Alk-SMase displays anti-proliferative and anti-inflammatory properties by generating ceramide, reducing the formation of lysophosphatidic acid and inactivating platelet-activating factor. Alk-SMase is downregulated in human long-standing ulcerative colitis and colonic adenocarcinoma, and mutations in the Alk-SMase gene may lead to colon cancer.

REFERENCES

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6. Wu, J., et al. 2005. Cloning of alkaline sphingomyelinase from rat intestinal mucosa and adjusting of the hypothetical protein XP_221184 in GenBank. Biochim. Biophys. Acta 1687: 94-102.
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CHROMOSOMAL LOCATION

Genetic locus: ENPP7 (human) mapping to 17q25.3; Enpp7 (mouse) mapping to 11 E2.

SOURCE

Alk-SMase (D-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Alk-SMase 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-49352 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Alk-SMase (D-17) is recommended for detection of Alk-SMase (Intestinal alkaline sphingomyelinase) of mouse, rat and 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).

Alk-SMase (D-17) is also recommended for detection of Alk-SMase (Intestinal alkaline sphingomyelinase) in additional species, including canine.

Suitable for use as control antibody for Alk-SMase siRNA (h): sc-60151, Alk-SMase siRNA (m): sc-60152, Alk-SMase shRNA Plasmid (h): sc-60151-SH, Alk-SMase shRNA Plasmid (m): sc-60152-SH, Alk-SMase shRNA (h) Lentiviral Particles: sc-60151-V and Alk-SMase shRNA (m) Lentiviral Particles: sc-60152-V.

Molecular Weight of Alk-SMase: 51 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.

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.