SANTA CRUZ BIOTECHNOLOGY, INC.

N-SMase (C-13): sc-26212

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Sphingomyelin and its metabolic products are now known to have second messenger functions in a variety of cellular signaling pathways. At the epicenter of the sphingomyelin-cell signaling pathway is a family of phospholipases called sphingomyelinases. These enzymes cleave sphingomyelin to produce ceramide and phosphocholine. Ceramide in turn serves as a lipid second messenger that induces a variety of cell regulatory phenomenon such as programmed cell death (apoptosis), cell differentiation, cell proliferation and sterol homeostasis. Neutral sphingomyelinase (N-SMase) is a Mg^{2+} sensitive enzyme that can be activated by a host of physiologically relevant and structurally diverse molecules like tumor necrosis factor-α (TNF-α), oxidized human low density lipoproteins (Ox-LDL), and several growth factors.

REFERENCES

1. Chatterjee, S. 1999. Neutral sphingomyelinase: past, present and future. Chem. Phys. Lipids 102: 79-96.
2. Chan, E.C., et al. 2000. Purification and characterization of neutral sphingomyelinase from *Helicobacter pylori*. Biochemistry 39: 4838-4845.

CHROMOSOMAL LOCATION

Genetic locus: SMPD2 (human) mapping to 6q21.

SOURCE

N-SMase (C-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of N-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-26212 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.

APPLICATIONS

N-SMase (C-13) is recommended for detection of N-SMase of 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), immunohistochemistry (including paraffin-embedded sections) (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 N-SMase siRNA (h): sc-106277, N-SMase shRNA Plasmid (h): sc-106277-SH and N-SMase shRNA (h) Lentiviral Particles: sc-106277-V.

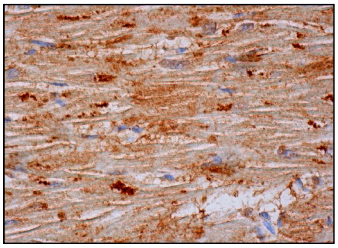
Molecular Weight of N-SMase: 90 kDa.

Positive Controls: U-698-M whole cell lysate: sc-364799.

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. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



N-SMase (C-13): sc-26212. Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing cytoplasmic and membrane staining of myocytes.

SELECT PRODUCT CITATIONS

1. 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.

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.