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N-SMase (m): 293T Lysate: sc-121909

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 ($TNF\alpha$), oxidized human low density lipoproteins (Ox-LDL) and several growth factors.

REFERENCES

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- Luberto, C., Hassler, D.F., Signorelli, P., Okamoto, Y., Sawai, H., Boros, E., Hazen-Martin, D.J., Obeid, L.M., Hannun, Y.A. and Smith, G.K. 2002. Inhibition of tumor necrosis factor-induced cell death in MCF7 by a novel inhibitor of neutral sphingomyelinase. *J. Biol. Chem.* 277: 41128-41139.
- Okamoto, Y., Obeid, L.M. and Hannun, Y.A. 2002. $Bcl-x_L$ interrupts oxidative activation of neutral sphingomyelinase. *FEBS Lett.* 530: 104-108.
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CHROMOSOMAL LOCATION

Genetic locus: *Smpd2* (mouse) mapping to 10 B2.

PRODUCT

N-SMase (m): 293T Lysate represents a lysate of mouse N-SMase transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

APPLICATIONS

N-SMase (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive N-SMase antibodies. Recommended use: 10-20 μ l per lane.

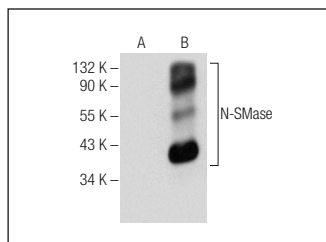
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

N-SMase (B-1): sc-377135 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse N-SMase expression in N-SMase transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



N-SMase (B-1): sc-377135. Western blot analysis of N-SMase expression in non-transfected: sc-117752 (A) and mouse N-SMase transfected: sc-121909 (B) 293T whole cell lysates.

RESEARCH USE

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

PROTOCOLS

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