

# nSMase3 (C-terminal region)

Rabbit Polyclonal

Cat. # SP0281

Size 100 µl

## Background

Cellular stress leads to hydrolysis of sphingomyelin to generate lipid second messenger molecules including ceramide, sphingosine, and sphingosine-1-phosphate. A variety of sphingomyelinase activities have been described that differ in tissue and subcellular distribution, as well as pH and cation dependence. These enzymes generate ceramide for specific signaling pathways that lead to a wide range of cellular responses, such as apoptosis, cell cycle arrest, cell survival, and cell proliferation. Neutral sphingomyelinases (nSMases) are Mg<sup>2+</sup>-dependent neutral pH SMases, and the family includes nSMase1, nSMase2, and nSMase3. These nSMases differ in their tissue distribution and subcellular localization. nSMase3 (also known as SMPD4) is highly expressed in skeletal muscle and heart tissues, and is expressed in many cancer cell lines. The nSMase3 protein is localized to endoplasmic reticulum and Golgi, and may be upregulated in response to DNA damage and cell stress.

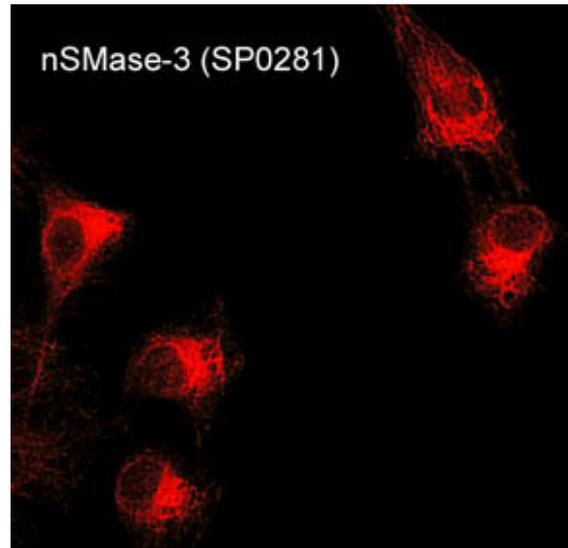
## Background References

Wiegmann, K.O. et al. (2006) J Biol Chem. 281(19):13784.  
Corcoran, C.A. et al. (2008) Mol Can Res. 6(5):795.

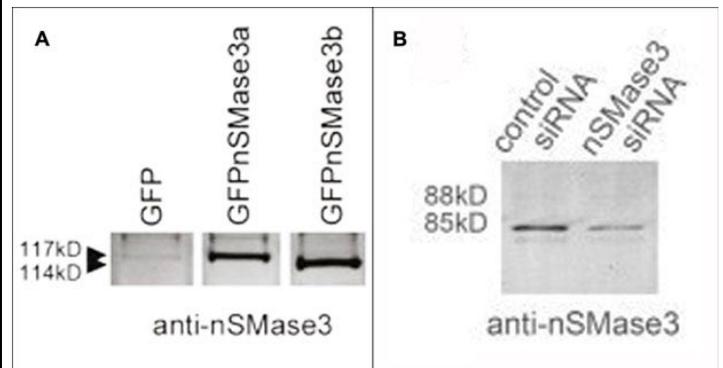
## Product Citations

Moylan, J. et al. (2014) Redox biology 2:910.

WB: C2C12 myoblast, siRNA knockdown



Immunocytochemical labeling of nSMase3 in aldehyde-fixed and NP-40-permeabilized mouse C2C12 cells. The cells were labeled with rabbit polyclonal anti-nSMase3 (SP0281) antibody. The antibody was detected using appropriate secondary antibody conjugated to DyLight® 594.



Western blot of nSMase3a and nSMase3b GFP transfectants (A) and nSMase3 siRNA knockdown in C2C12 myotubes (B). Both blots were probed with anti-nSMase3 (C-terminal region) rabbit polyclonal antibody (SP0281). (Image provided by Dr. Jennifer Moylan, Dept. Physiology, University of Kentucky).

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### Immunogen

nSMase3 synthetic peptide corresponds to amino acids in the C-terminal region of mouse nSMase3. This sequence is highly conserved in rat and human nSMase3, and has low homology to other nSMase family members.

### Buffer and Storage

Rabbit polyclonal, affinity-purified antibody is supplied in 100µl phosphate-buffered saline, 50% glycerol, 1 mg/ml BSA, and 0.05% sodium azide. Store at -20°C. Stable for 1 year.

### Applications

WB	1:1000
ELISA	1:2000
IP	1:100
ICC	1:250

### Species Reactivity

Hu, Rt, Ms

End user should determine optimal dilution for their particular applications and experiments.

Western blot membranes were incubated with diluted antibody in 5% non-fat milk, Tris buffer, 0.04% Tween20 for 1 hour at room temperature.

Abbreviations: E = ELISA, ICC = immunocytochemistry, IHC = immunohistochemistry, IP = immunoprecipitation, MS = mass spectrometry, WB = western blot  
Hu = Human, Ms = Mouse, Rt = Rat, Ck = Chicken, F = Frog, B = Bovine

### Specificity

The antibody detects an 85-90 kDa\* band corresponding to nSMase3 on SDS-PAGE immunoblots of adult mouse heart and mouse C2C12 cells. The antibody works for western blot, ELISA, immunoprecipitation, and immunocytochemistry.

\*All molecular weights (MW) are confirmed by comparison to MW standards and to western blot mobilities of known proteins with similar MW.

"Native" western blot utilizes non-reducing sample buffer (no mercaptoethanol or SDS), normal SDS-PAGE gel electrophoresis, and no methanol in transfer buffers.

### Related Products

SP4061 nSMase2 (C-terminal region) Rabbit Polyclonal

SK6640 Sphingosine Kinase Activation Antibody Sampler Kit

SP5421 Sphingosine Kinase 1 (C-terminal region) Rabbit Polyclonal

SP4621 Sphingosine Kinase 2 (N-terminal region) Rabbit Polyclonal

SM5401 Sphingosine Kinase 1 (C-terminal region) Rat Monoclonal

SM5321 Sphingosine Kinase 2 (N-terminal region) Mouse Monoclonal

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Rev 8/31/2018