

# N-SMase2 (I-16): sc-67692

## BACKGROUND

N-SMase2 (neutral sphingomyelinase 2), also known as NSMASE2 or SMPD3 (sphingomyelin phosphodiesterase 3), is a ubiquitously expressed 655 amino acid member of the magnesium-dependent phosphohydrolase protein family. Localized to the membrane of the Golgi apparatus, N-SMase2 functions to catalyze the hydrolysis of sphingomyelin to form ceramide and phosphocholine—two proteins that mediate cell growth arrest and apoptosis. N-SMase2 is enzymatically activated by unsaturated fatty acids and phosphatidylserine and, through regulation of ceramide synthesis, is involved in growth suppression and postnatal development. Expression of N-SMase2 is upregulated during the G<sub>0</sub>/G<sub>1</sub> phases of the cell cycle and optimal N-SMase2 activity occurs at a slightly basic pH of 7.5. N-SMase2 deficiency is the cause of chondrodysplasia, a genetic disorder characterized by impaired bone growth that leads to short stature, bowlegs and underdeveloped joints.

## CHROMOSOMAL LOCATION

Genetic locus: SMPD3 (human) mapping to 16q22.1; Smpd3 (mouse) mapping to 8 D3.

## SOURCE

N-SMase2 (I-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of N-SMase2 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-67692 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

N-SMase2 (I-16) is recommended for detection of sphingomyelin phosphodiesterase 3 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), 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).

N-SMase2 (I-16) is also recommended for detection of sphingomyelin phosphodiesterase 3 in additional species, including bovine and porcine.

Suitable for use as control antibody for N-SMase2 siRNA (h): sc-62655, N-SMase2 siRNA (m): sc-62656, N-SMase2 shRNA Plasmid (h): sc-62655-SH, N-SMase2 shRNA Plasmid (m): sc-62656-SH, N-SMase2 shRNA (h) Lentiviral Particles: sc-62655-V and N-SMase2 shRNA (m) Lentiviral Particles: sc-62656-V.

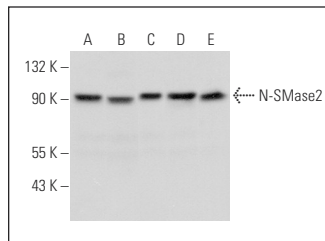
Molecular Weight of N-SMase2: 70 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, HeLa whole cell lysate: sc-2200 or NIH/3T3 whole cell lysate: sc-2210.

## 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-SMase2 (I-16): sc-67692. Western blot analysis of N-SMase2 expression in HEK293 (A), IMR-32 (B), HeLa (C), K-562 (D) and NIH/3T3 (E) whole cell lysates.



N-SMase2 (I-16): sc-67692. Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing cytoplasmic staining of glandular cells.

## 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](http://www.scbt.com) or our catalog for detailed protocols and support products.


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Try **N-SMase2 (G-6): sc-166637**, our highly recommended monoclonal alternative to N-SMase2 (I-16).