**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 G0/G1 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 B D3.

**SOURCE**

N-SMase2 (G-6) is a mouse monoclonal antibody raised against amino acids 461-655 mapping at the C-terminus of N-SMase2 of human origin.

**PRODUCT**

Each vial contains 200 µg IgG2a kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. N-SMase2 (G-6) is available conjugated to agarose (sc-166637 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166637 HRP), 200 µg/ml, for WB, (HCIP) and ELISA; to either phycoerythrin (sc-166637 PE), fluorescein (sc-166637 FITC), Alexa Fluor® 488 (sc-166637 AF488), Alexa Fluor® 546 (sc-166637 AF546), Alexa Fluor® 594 (sc-166637 AF594) or Alexa Fluor® 647 (sc-166637 AF647), 200 µg/ml, for WB (RGB), IF, HCIP and FCM; and to either Alexa Fluor® 680 (sc-166637 AF680) or Alexa Fluor® 790 (sc-166637 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

**APPLICATIONS**

N-SMase2 (G-6) is recommended for detection of sphingomyelin phosphodiesterase 3 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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-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: CCRF-CEM cell lysate: sc-2225, Jurkat whole cell lysate: sc-2204 or K-562 whole cell lysate: sc-2203.

**STORAGE**

Store at 4°C. **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

**DATA**

![Image](image-url)

N-SMase2 (G-6) sc-166637. Western blot analysis of N-SMase2 expression in CCRF-CEM (A), Jurkat (B) and K-562 (C) whole cell lysates.

**SELECT PRODUCT CitATIONS**


**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.

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