

# NSMase2 Polyclonal Antibody

Purified Rabbit Polyclonal Antibody (Pab)

Catalog # AP54420

## Product Information

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<b>Application</b>	IHC-P, IHC-F, IF, ICC, E
<b>Primary Accession</b>	<a href="#">Q9NY59</a>
<b>Reactivity</b>	Rat, Pig, Dog, Bovine
<b>Host</b>	Rabbit
<b>Clonality</b>	Polyclonal
<b>Calculated MW</b>	71081
<b>Physical State</b>	Liquid
<b>Immunogen</b>	KLH conjugated synthetic peptide derived from human NSMase2
<b>Epitope Specificity</b>	511-610/655
<b>Isotype</b>	IgG
<b>Purity</b>	affinity purified by Protein A
<b>Buffer</b>	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
<b>SUBCELLULAR LOCATION</b>	Golgi apparatus membrane. Cell membrane. May localize to detergent-resistant subdomains of Golgi membranes of hypothalamic neurosecretory neurons. According to PubMed:15051724, it localizes to plasma membrane in confluent contact-inhibited cells.
<b>SIMILARITY</b>	Belongs to the neutral sphingomyelinase family.
<b>SUBUNIT</b>	Belongs to the neutral sphingomyelinase family.
<b>Important Note</b>	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
<b>Background Descriptions</b>	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.

## Additional Information

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<b>Gene ID</b>	55512
<b>Other Names</b>	Sphingomyelin phosphodiesterase 3, 3.1.4.12, Neutral sphingomyelinase 2, nSMase-2, nSMase2, Neutral sphingomyelinase II, SMPD3 ( <a href="#">HGNC:14240</a> )

<b>Target/Specificity</b>	Predominantly expressed in brain.
<b>Dilution</b>	IHC-P=1:100-500,IHC-F=1:100-500,ICC=1:100-500,IF=1:100-500,ELISA=1:5000-10000
<b>Format</b>	0.01M TBS(pH7.4) with 1% BSA, 0.09% (W/V) sodium azide and 50% Glyce
<b>Storage</b>	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

## Protein Information

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<b>Name</b>	SMPD3 ( <a href="#">HGNC:14240</a> )
<b>Function</b>	Catalyzes the hydrolysis of sphingomyelin to form ceramide and phosphocholine. Ceramide mediates numerous cellular functions, such as apoptosis and growth arrest, and is capable of regulating these 2 cellular events independently. Also hydrolyzes sphingosylphosphocholine. Regulates the cell cycle by acting as a growth suppressor in confluent cells. Probably acts as a regulator of postnatal development and participates in bone and dentin mineralization (PubMed: <a href="#">10823942</a> , PubMed: <a href="#">14741383</a> , PubMed: <a href="#">15051724</a> ). Binds to anionic phospholipids (APLs) such as phosphatidylserine (PS) and phosphatidic acid (PA) that modulate enzymatic activity and subcellular location. May be involved in IL-1-beta-induced JNK activation in hepatocytes (By similarity). May act as a mediator in transcriptional regulation of NOS2/iNOS via the NF-kappa-B activation under inflammatory conditions (By similarity).
<b>Cellular Location</b>	Golgi apparatus membrane; Lipid-anchor. Cell membrane; Lipid-anchor. Note=May localize to detergent-resistant subdomains of Golgi membranes of hypothalamic neurosecretory neurons (PubMed:10823942). Localizes to plasma membrane in confluent contact- inhaibited cells (PubMed:15051724)
<b>Tissue Location</b>	Predominantly expressed in brain.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.