

## **NSMase2 Polyclonal Antibody**

Purified Rabbit Polyclonal Antibody (Pab) **Catalog # AP54420** 

## **Specification**

# **NSMase2 Polyclonal Antibody - Product Information**

IHC-P, IHC-F, IF, ICC, E Application

**Primary Accession 09NY59** 

Rat, Pig, Dog, Bovine Reactivity Host Rabbit Clonality **Polyclonal** Calculated MW **71 KDa Physical State** Liquid

Immunogen KLH conjugated synthetic peptide derived

laG

from human NSMase2

**Epitope Specificity** 511-610/655

Isotype **Purity** affinity purified by Protein A

Buffer 0.01M TBS (pH7.4) with 1% BSA, 0.02%

Proclin300 and 50% Glycerol. SUBCELLULAR LOCATION 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

**SIMILARITY** Belongs to the neutral sphingomyelinase

family.

**SUBUNIT** Belongs to the neutral sphingomyelinase

family.

This product as supplied is intended for Important Note research use only, not for use in human.

therapeutic or diagnostic applications.

### **Background Descriptions**

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.



## **NSMase2 Polyclonal Antibody - Additional Information**

#### Gene ID 55512

### **Other Names**

Sphingomyelin phosphodiesterase 3, 3.1.4.12, Neutral sphingomyelinase 2, nSMase-2, nSMase-2, Neutral sphingomyelinase II, SMPD3 (<a href="http://www.genenames.org/cgi-bin/gene\_symbol\_report?hgnc\_id=14240" target="blank">HGNC:14240</a>)

### Target/Specificity

Predominantly expressed in brain.

### **Dilution**

```
<span class ="dilution_IHC-P">IHC-P~~N/A</span><br \> <span class
="dilution_IHC-F">IHC-F~~N/A</span><br \> <span class
="dilution_IF">IF~~1:50~200</span><br \> <span class ="dilution_ICC">ICC~~N/A</span><br \> <span class ="dilution_E">E~~N/A</span>
```

#### **Format**

0.01M TBS(pH7.4), 0.09% (W/V) sodium azide and 50% Glyce

### Storage

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.

## **NSMase2 Polyclonal Antibody - Protein Information**

### Name SMPD3 (HGNC:14240)

## **Function**

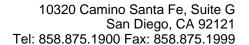
Catalyzes the hydrolysis of sphingomyelin to form ceramide and phosphocholine. Ceramide mediates numerous cellular functions, such as apoptosis and growth arrest, and is capable of regulating these 2 cellular events independently. Also hydrolyzes sphingosylphosphocholine. Regulates the cell cycle by 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="http://www.uniprot.org/citations/10823942" target="\_blank">10823942</a>, PubMed:<a href="http://www.uniprot.org/citations/14741383" target="\_blank">14741383</a>, PubMed:<a href="http://www.uniprot.org/citations/15051724" target="\_blank">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).

## **Cellular Location**

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)

## **Tissue Location**

Predominantly expressed in brain.





# **NSMase2 Polyclonal Antibody - Protocols**

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- <u>Immunohistochemistry</u>
- <u>Immunofluorescence</u>
- <u>Immunoprecipitation</u>
- Flow Cytomety
- Cell Culture

**NSMase2 Polyclonal Antibody - Images**