

neutral ceramidase (N-14): sc-79642

BACKGROUND

Neutral ceramidase, also known as ASAH2 (N-acylsphingosine amidohydrolase (non-lysosomal ceramidase) 2), HNAC1, BCDase or NCDase, is a 780 amino acid single-pass type II membrane protein that exists as a precursor which is proteolytically cleaved to produce a soluble active peptide. Expressed ubiquitously with highest levels present in heart, intestine, kidney and skeletal muscle, neutral ceramidase functions to catalyze the hydrolysis of sphingolipid ceramide into sphingosine and free fatty acid, a reaction that occurs at an optimal pH of 6.5-8.5 and is essential for the regulation of sphingolipid signaling metabolites. Additionally, neutral ceramidase plays a role in apoptotic suppression, as well as in the digestion of dietary sphingolipids within intestinal tissue. Multiple isoforms of neutral ceramidase exist due to alternative splicing events.

REFERENCES

1. Tani, M., et al. 2000. Molecular cloning of the full-length cDNA encoding mouse neutral ceramidase. A novel but highly conserved gene family of neutral/alkaline ceramidases. *J. Biol. Chem.* 275: 11229-11234.
2. El Bawab, S., et al. 2000. Molecular cloning and characterization of a human mitochondrial ceramidase. *J. Biol. Chem.* 275: 21508-21513.
3. Mitsutake, S., et al. 2001. Purification, characterization, molecular cloning, and subcellular distribution of neutral ceramidase of rat kidney. *J. Biol. Chem.* 276: 26249-26259.
4. Osawa, Y., et al. 2005. Roles for C16-ceramide and sphingosine 1-phosphate in regulating hepatocyte apoptosis in response to tumor necrosis factor- α . *J. Biol. Chem.* 280: 27879-27887.
5. Tani, M., et al. 2005. Mechanisms of sphingosine and sphingosine 1-phosphate generation in human platelets. *J. Lipid Res.* 46: 2458-2467.
6. Xu, R., et al. 2006. Golgi alkaline ceramidase regulates cell proliferation and survival by controlling levels of sphingosine and S1P. *FASEB J.* 20: 1813-1825.
7. Ohlsson, L., et al. 2007. Purification and characterization of human intestinal neutral ceramidase. *Biochimie* 89: 950-960.
8. Avramopoulos, D., et al. 2007. A novel gene derived from a segmental duplication shows perturbed expression in Alzheimer's disease. *Neurogenetics* 8: 111-120.
9. Online Mendelian Inheritance in Man, OMIM[™]. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 611202. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: ASAH2 (human) mapping to 10q11.23; Asah2 (mouse) mapping to 19 C1.

SOURCE

neutral ceramidase (N-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of neutral ceramidase of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-79642 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

neutral ceramidase (N-14) is recommended for detection of neutral ceramidase 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for neutral ceramidase siRNA (h): sc-75908, neutral ceramidase siRNA (m): sc-75909, neutral ceramidase shRNA Plasmid (h): sc-75908-SH, neutral ceramidase shRNA Plasmid (m): sc-75909-SH, neutral ceramidase shRNA (h) Lentiviral Particles: sc-75908-V and neutral ceramidase shRNA (m) Lentiviral Particles: sc-75909-V.

Molecular Weight of neutral ceramidase: 84 kDa.

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.

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 or our catalog for detailed protocols and support products.



Try **neutral ceramidase (B-9): sc-374634**, our highly recommended mono-clonal alternative to neutral ceramidase (N-14).