SANTA CRUZ BIOTECHNOLOGY, INC.

neutral ceramidase (B-9): sc-374634

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.

CHROMOSOMAL LOCATION

Genetic locus: ASAH2 (human) mapping to 10q11.23.

SOURCE

neutral ceramidase (B-9) is a mouse monoclonal antibody raised against amino acids 34-333 mapping within a cytoplasmic domain of neutral ceramidase of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

neutral ceramidase (B-9) is available conjugated to agarose (sc-374634 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374634 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374634 PE), fluorescein (sc-374634 FITC), Alexa Fluor® 488 (sc-374634 AF488), Alexa Fluor® 546 (sc-374634 AF546), Alexa Fluor® 594 (sc-374634 AF594) or Alexa Fluor® 647 (sc-374634 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374634 AF680) or Alexa Fluor® 790 (sc-374634 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

neutral ceramidase (B-9) is recommended for detection of neutral ceramidase of human origin by Western Blotting (starting dilution 1:200, 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 neutral ceramidase siRNA (h): sc-75908, neutral ceramidase shRNA Plasmid (h): sc-75908-SH and neutral ceramidase shRNA (h) Lentiviral Particles: sc-75908-V.

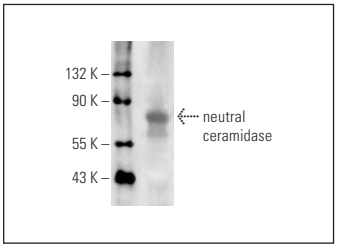
Molecular Weight of neutral ceramidase: 84 kDa.

Positive Controls: U-251-MG whole cell lysate: sc-364176.

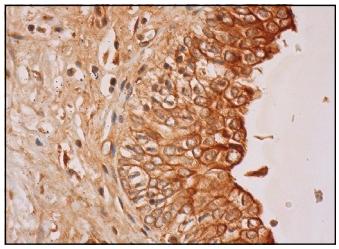
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



neutral ceramidase (B-9) HRP: sc-374634 HRP. Direct western blot analysis of neutral ceramidase expression in U-251-MG whole cell lysate. Cruz Marker™ Molecular Weight Standards detected with Cruz Marker MW Tag-HRP: sc-516732.



neutral ceramidase (B-9): sc-374634. Immunoperoxidase staining of formalin fixed, paraffin-embedded human urinary bladder tissue showing membrane and cytoplasmic staining of urothelial cells.

SELECT PRODUCT CITATIONS

1. Schulz, M.E., et al. 2019. Manipulation of the sphingolipid rheostat influences the mediator of flow-induced dilation in the human microvasculature. J. Am. Heart Assoc. 8: e013153.
2. Puig, N., et al. 2022. Presence of ceramidase activity in electronegative LDL. Int. J. Mol. Sci. 24: 165.
3. Franco, M., et al. 2023. Immunolocalization of sphingolipid catabolism enzymes along the nephron: novel early urinary biomarkers of renal damage. Int. J. Mol. Sci. 24: 16633.

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 for detailed protocols and support products.