SANTA CRUZ BIOTECHNOLOGY, INC.

NAGA (F-1): sc-393485

BACKGROUND

NAGA (N-acetylgalactosaminidase, α), also known as α-galactosidase B or GALB, is a 411 lysosomal protein belonging to the glycosyl hydrolase 27 family that may exist as a homodimer and plays a critical role in glycolipid breakdown. NAGA encodes α-N-acetylgalactosaminidase, a lysosomal enzyme, which cleaves α-N-acetylgalactosaminyl groups from glycoconjugates. Mapping to human chromosome 22q13.2, NAGA defects are the cause of an autosomal recessive disorder with three phenotypes, known as Schindler disease (types I, II and III) or NAGA deficiency (types I, II and III). Characterized by neurologic manifestations that range in severity, Schindler disease type I is the most severe form, followed by type III, which may have mild-to-moderate effects. Schindler disease type II, also known as Kanzaki disease, is characterized by mild intellectual impairment and angiokeratoma corporis diffusum.

REFERENCES

1. de Groot, P.G., et al. 1978. Localization of a gene for human α-galactosidase B (= N-acetyl-α-d-galactosaminidase) on chromosome 22. Hum. Genet. 44: 305-312.
2. Geurts van Kessel, A.H., et al. 1980. Regional localization of the genes coding for human ACO2, ARSA, and NAGA on chromosome 22. Cytogenet. Cell Genet. 28: 169-172.
3. Wang, A.M., et al. 1990. Schindler disease: the molecular lesion in the α-N-acetylgalactosaminidase gene that causes an infantile neuroaxonal dystrophy. J. Clin. Invest. 86: 1752-1756.
4. de Jong, J., et al. 1994. α-N-acetylgalactosaminidase deficiency with mild clinical manifestations and difficult biochemical diagnosis. J. Pediatr. 125: 385-391.
5. Keulemans, J.L., et al. 1996. Human α-N-acetylgalactosaminidase (α-NAGA) deficiency: new mutations and the paradox between genotype and phenotype. J. Med. Genet. 33: 458-464.

CHROMOSOMAL LOCATION

Genetic locus: NAGA (human) mapping to 22q13.2.

SOURCE

NAGA (F-1) is a mouse monoclonal antibody raised against amino acids 335-411 mapping at the C-terminus of NAGA of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

NAGA (F-1) is available conjugated to agarose (sc-393485 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393485 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393485 PE), fluorescein (sc-393485 FITC), Alexa Fluor® 488 (sc-393485 AF488), Alexa Fluor® 546 (sc-393485 AF546), Alexa Fluor® 594 (sc-393485 AF594) or Alexa Fluor® 647 (sc-393485 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393485 AF680) or Alexa Fluor® 790 (sc-393485 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

NAGA (F-1) is recommended for detection of NAGA of 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for NAGA siRNA (h): sc-75860, NAGA shRNA Plasmid (h): sc-75860-SH and NAGA shRNA (h) Lentiviral Particles: sc-75860-V.

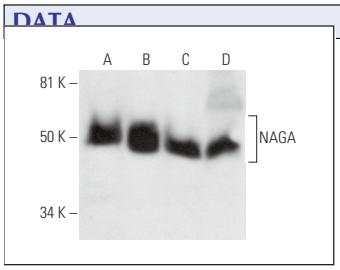
Molecular Weight of NAGA: 47 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, JAR cell lysate: sc-2276 or A-431 whole cell lysate: sc-2201.

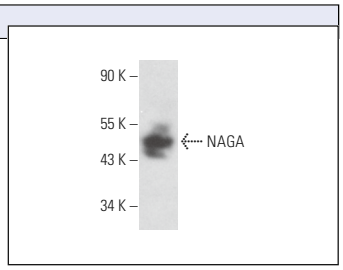
RECOMMENDED SUPPORT REAGENTS

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.

DATA



NAGA (F-1): sc-393485. Western blot analysis of NAGA expression in HeLa (**A**), JAR (**B**) and A-431 (**C**) whole cell lysates and human kidney tissue extract (**D**).



NAGA (F-1): sc-393485. Western blot analysis of NAGA expression in THP-1 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Saburi, E., et al. 2017. shRNA-mediated downregulation of α-N-acetylgalactosaminidase inhibits migration and invasion of cancer cell lines. Iran. J. Basic Med. Sci. 20: 1021-1028.

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.