SANTA CRUZ BIOTECHNOLOGY, INC.

Neu1 (F-8): sc-166824

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

NEU1 encodes the lysosomal enzyme neuraminidase, Neu1, which cleaves terminal sialic acid residues from substrates such as glycoproteins and glycolipids. In the lysosome Neu1 belongs to a heterotrimeric complex containing β-Galactosidase and cathepsin A (also referred to as "protective protein"). In humans, primary or secondary deficiency of this enzyme leads to two clinically similar neurodegenerative lysosomal storage disorders: sialidosis and galactosialidosis (GS). Sialidosis symptoms range from eye abnormalities and neurological disturbances to skeletal malformations, mental retardation and early death. Neu1 is expressed in the pancreas, muscle, kidney, placenta, heart, lung and liver. The human Neu1 gene maps to chromosome 6p21.33 and encodes a lysosomal protein localized on the inner side of the plasma membrane and in intracellular vesicles. Neu1 is also known as α-N-acetylneuraminidase and acetylneuraminyl hydrolase.

CHROMOSOMAL LOCATION

Genetic locus: NEU1 (human) mapping to 6p21.33.

SOURCE

Neu1 (F-8) is a mouse monoclonal antibody raised against amino acids 116-415 mapping at the C-terminus of Neu1 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.

Neu1 (F-8) is available conjugated to agarose (sc-166824 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166824 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166824 PE), fluorescein (sc-166824 FITC), Alexa Fluor® 488 (sc-166824 AF488), Alexa Fluor® 546 (sc-166824 AF546), Alexa Fluor® 594 (sc-166824 AF594) or Alexa Fluor® 647 (sc-166824 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166824 AF680) or Alexa Fluor® 790 (sc-166824 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

Neu1 (F-8) is recommended for detection of Neu1 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), 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 Neu1 siRNA (h): sc-106297, Neu1 shRNA Plasmid (h): sc-106297-SH and Neu1 shRNA (h) Lentiviral Particles: sc-106297-V.

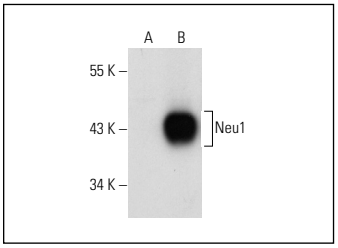
Molecular Weight of Neu1: 45 kDa.

Positive Controls: Neu1 (h): 293T Lysate: sc-171286, Hep G2 cell lysate: sc-2227 or HeLa whole cell lysate: sc-2200.

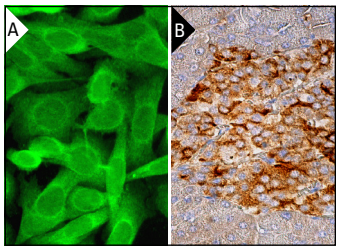
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



Neu1 (F-8): sc-166824. Western blot analysis of Neu1 expression in non-transfected: sc-117752 (**A**) and human Neu1 transfected: sc-171286 (**B**) 293T whole cell lysates.



Neu1 (F-8): sc-166824. Immunofluorescence staining of formalin-fixed SW480 cells showing cytoplasmic and membrane localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cytoplasmic staining of islets of Langerhans (**B**).

SELECT PRODUCT CITATIONS

1. Puerta-Guardo, H., et al. 2019. Flavivirus NS1 triggers tissue-specific vascular endothelial dysfunction reflecting disease tropism. Cell Rep. 26: 1598-1613.
2. Allendorf, D.H., et al. 2020. Lipopolysaccharide activates microglia via neuraminidase 1 desialylation of Toll-like receptor 4. J. Neurochem. 155: 403-416.
3. Bocquet, O., et al. 2021. Characterization of novel interactions with membrane Neu1 highlights new regulatory functions for the elastin receptor complex in monocyte interaction with endothelial cells. Cell Biosci. 11: 206.
4. Horii, Y., et al. 2022. Reversal of neuroinflammation in novel GS model mice by single i.c.v. administration of CHO-derived rhCTSA precursor protein. Mol. Ther. Methods Clin. Dev. 25: 297-310.
5. Boland, S., et al. 2022. Deficiency of the frontotemporal dementia gene GRN results in gangliosidosis. Nat. Commun. 13: 5924.
6. Chen, Q.Q., et al. 2023. Neuraminidase 1 promotes renal fibrosis development in male mice. Nat. Commun. 14: 1713.
7. Yang, X., et al. 2024. JEV infection leads to dysfunction of lysosome by downregulating the expression of LAMP1 and LAMP2. Vet. Microbiol. 295: 110150.
8. Niella, R.V., et al. 2024. Post-treatment with maropitant reduces oxidative stress, endoplasmic reticulum stress and neuroinflammation on peripheral nerve injury in rats. PLoS ONE 19: e0287390.

RESEARCH USE

For research use only, not for use in diagnostic procedures.