SANTA CRUZ BIOTECHNOLOGY, INC.

# Neu4 (N-14): sc-161127

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*The Power to Question*

## BACKGROUND

Neu4 (N-acetyl-α-neuraminidase 4), also known as LP5125, is a 484 amino acid peripheral membrane protein that contains 3 BNR repeats and belongs to the glycosyl hydrolase 33 family. Expressed ubiquitously with highest expression in liver, Neu4 functions as a sialidase that catalyzes the hydrolysis of α-(2→3)-, α-(2→6)- and α-(2→8)- glycosidic linkages of terminal sialic acid residues in synthetic substrates, as well as glycolipids, oligosaccharides and colominic acid. The gene encoding Neu4 maps to human chromosome 2, which houses over 1,400 genes and comprises nearly 8% of the human genome. Harlequin icthyosis, a rare and morbid skin deformity, is associated with mutations in the ABCA12 gene, while the lipid metabolic disorder sitosterolemia is associated with defects in the ABCG5 and ABCG8 genes. Additionally, an extremely rare recessive genetic disorder, Alström syndrome, is caused by mutations in the ALMS1 gene, which maps to chromosome 2.

## REFERENCES


1. Comelli, E.M., Amado, M., Lustig, S.R. and Paulson, J.C. 2003. Identification and expression of Neu4, a novel murine sialidase. Gene 321: 155-161.
2. Monti, E., Bassi, M.T., Bresciani, R., Civini, S., Croci, G.L., Papini, N., Riboni, M., Zanchetti, G., Ballabio, A., Preti, A., Tettamanti, G., Venerando, B. and Borsani, G. 2004. Molecular cloning and characterization of NEU4, the fourth member of the human sialidase gene family. Genomics 83: 445-453.
3. Seyrantepe, V., Landry, K., Trudel, S., Hassan, J.A., Morales, C.R. and Pshezhetsky, A.V. 2004. Neu4, a novel human lysosomal lumen sialidase, confers normal phenotype to sialidosis and galactosialidosis cells. J. Biol. Chem. 279: 37021-37029.
4. Online Mendelian Inheritance in Man, OMIM™. 2004. Johns Hopkins University, Baltimore, MD. MIM Number: 608527. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Stamatos, N.M., Liang, F., Nan, X., Landry, K., Cross, A.S., Wang, L.X. and Pshezhetsky, A.V. 2005. Differential expression of endogenous sialidases of human monocytes during cellular differentiation into macrophages. FEBS J. 272: 2545-2556.
6. Magesh, S., Suzuki, T., Miyagi, T., Ishida, H. and Kiso, M. 2006. Homology modeling of human sialidase enzymes Neu1, Neu3 and Neu4 based on the crystal structure of Neu2: hints for the design of selective Neu3 inhibitors. J. Mol. Graph. Model. 25: 196-207.
7. Miyagi, T., Wada, T., Yamaguchi, K., Shiozaki, K., Sato, I., Kakugawa, Y., Yamanami, H. and Fujiya, T. 2008. Human sialidase as a cancer marker. Proteomics 8: 3303-3311.


## CHROMOSOMAL LOCATION

Genetic locus: NEU4 (human) mapping to 2q37.3; Neu4 (mouse) mapping to 1 D.

## SOURCE

Neu4 (N-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Neu4 of human origin.

## PRODUCT

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

Blocking peptide available for competition studies, sc-161127 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

Neu4 (N-14) is recommended for detection of Neu4 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); non cross-reactive with Neu1 or Neu2.

Neu4 (N-14) is also recommended for detection of Neu4 in additional species, including bovine.

Suitable for use as control antibody for Neu4 siRNA (h): sc-94619, Neu4 siRNA (m): sc-149921, Neu4 shRNA Plasmid (h): sc-94619-SH, Neu4 shRNA Plasmid (m): sc-149921-SH, Neu4 shRNA (h) Lentiviral Particles: sc-94619-V and Neu4 shRNA (m) Lentiviral Particles: sc-149921-V.

Molecular Weight of Neu4: 60 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.