NEU3 hydrolyzes Neu5Ac from glycoconjugates

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**Introduction**

Reactome is open-source, open access, manually curated and peer-reviewed pathway database. Pathway annotations are authored by expert biologists, in collaboration with Reactome editorial staff and cross-referenced to many bioinformatics databases. A system of evidence tracking ensures that all assertions are backed up by the primary literature. Reactome is used by clinicians, geneticists, genomics researchers, and molecular biologists to interpret the results of high-throughput experimental studies, by bioinformaticians seeking to develop novel algorithms for mining knowledge from genomic studies, and by systems biologists building predictive models of normal and disease variant pathways.

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**Literature references**


Reactome database release: 78

This document contains 1 reaction (see Table of Contents)
**NEU3 hydrolyzes Neu5Ac from glycoconjugates**

**Stable identifier:** R-HSA-4084994

**Type:** transition

**Compartments:** cytosol, plasma membrane

Sialidases 1-4 (NEU1-4, neuraminidases, receptor-destroying enzymes, RDEs) hydrolyze sialic acids (N-acetylneuraminic acid, Neu5Ac) to produce asialo compounds, a step in the degradation process of glycoproteins and gangliosides and are expressed in a variety of cellular locations. NEU3 localizes to the plasma membrane and hydrolyses Neu5Ac especially from gangliosides with alpha2,3- or alpha2,8-linkages present in the lipid bilayer (Wada et al. 1999, Monti et al. 2000). By regulating the composition of the lipid bilayer, NEU3 has been identified as an important regulator of trans-membrane signaling (Miyagi et al. 2008).

**Literature references**


**Editions**

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<th>Event Description</th>
<th>Author(s)</th>
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