BACKGROUND

Neu2 (N-acetyl-α-neuraminidase 2), also known as SIAL2 (sialidase 2), is a 380 amino acid cytosolic sialidase that contains two BNR repeats and belongs to the glycosyl hydrolase 33 family. Expressed in fetal liver, skeletal muscle and an embryonic carcinoma cell line, Neu2 functions to catalytically hydrolyze sialylated compounds. More specifically, Neu2 catalyzes the hydrolysis of α-(2,3), α-(2,6) and α-(2,8) glycosidic linkages of terminal sialic acid residues on glycoproteins, glycolipids, oligosaccharides, colominic acid and various synthetic substrates. Neu2 contains an N-linked glycosylation site, an N-terminal F/YRIP sequence motif (common to many sialidase enzymes) and two aspartic acid block consensus sequences. Human Neu2 shares over 72% sequence similarity with its rat and hamster counterparts, suggesting a conserved function between species. Expression of Neu2 in embryonic carcinomas implies a possible role in tumor formation and metastasis.

REFERENCES


CHROMOSOMAL LOCATION

Genetic locus: NEU2 (human) mapping to 2q37.1.