



Anti-CMAHP (aa 385-485) polyclonal antibody (DPAB-DC3471)

This product is for research use only and is not intended for diagnostic use.

PRODUCT INFORMATION

Antigen Description

Sialic acids are terminal components of the carbohydrate chains of glycoconjugates involved in ligand-receptor, cell-cell, and cell-pathogen interactions. The two most common forms of sialic acid found in mammalian cells are N-acetylneurameric acid (Neu5Ac) and its hydroxylated derivative, N-glycolylneurameric acid (Neu5Gc). Studies of sialic acid distribution show that Neu5Gc is not detectable in normal human tissues although it was an abundant sialic acid in other mammals. Neu5Gc is, in actuality, immunogenic in humans. The absence of Neu5Gc in humans is due to a deletion within the human gene CMAH encoding cytidine monophosphate-N-acetylneurameric acid hydroxylase, an enzyme responsible for Neu5Gc biosynthesis. Sequences encoding the mouse, pig, and chimpanzee hydroxylase enzymes were obtained by cDNA cloning and found to be highly homologous. However, the homologous human cDNA differs from these cDNAs by a 92-bp deletion in the 5' region. This deletion, corresponding to exon 6 of the mouse hydroxylase gene, causes a frameshift mutation and premature termination of the polypeptide chain in human. It seems unlikely that the truncated human hydroxylase mRNA encodes for an active enzyme explaining why Neu5Gc is undetectable in normal human tissues. Human genomic DNA also shows evidence of this deletion which does not occur in the genomes of African great apes. Nonetheless, the CMAH gene maps to 6p21.32 in humans and great apes indicating that mutation of the CMAH gene occurred following human divergence from chimpanzees and bonobos.

Immunogen

CMAH (BAA31160, 385 a.a. ~ 485 a.a) partial recombinant protein with GST tag. The sequence is
 GYDYLVDFLDLSFPKERPQREHPYEEIHSRVDVIRHVVKNGLLWDELYIGFQTRLQRDPD
 IYHHLFWNHFQIKLPLTPPNWKSFLMCCEQNGPAILQECKT

Source/Host

Mouse

Species Reactivity

Human

Conjugate

Unconjugated

Applications	WB (Recombinant protein), ELISA,
Size	50 µl
Buffer	50 % glycerol
Preservative	None
Storage	Store at -20°C or lower. Aliquot to avoid repeated freezing and thawing.

GENE INFORMATION

Gene Name	CMAHP cytidine monophospho-N-acetylneuraminic acid hydroxylase, pseudogene [Homo sapiens (human)]
Official Symbol	CMAHP
Synonyms	CMAHP; cytidine monophospho-N-acetylneuraminic acid hydroxylase, pseudogene; CMAH; CSAH;
Entrez Gene ID	8418
Chromosome Location	6p21.32
Function	2 iron, 2 sulfur cluster binding; NOT CMP-N-acetylneuraminate monooxygenase activity;