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Product datasheet for TL316820

CMAHP Human shRNA Plasmid Kit (Locus ID 8418)

Product data:

Product Type:	shRNA Plasmids
Product Name:	CMAHP Human shRNA Plasmid Kit (Locus ID 8418)
Locus ID:	8418
Synonyms:	CMAH; CSAH
Vector:	pGFP-C-shLenti (TR30023)
E. coli Selection:	Chloramphenicol (34 ug/ml)
Mammalian Cell Selection:	Puromycin
Format:	Lentiviral plasmids
Components:	CMAHP - Human, 4 unique 29mer shRNA constructs in lentiviral GFP vector(Gene ID = 8418). 5µg purified plasmid DNA per construct 29-mer scrambled shRNA cassette in pGFP-C-shLenti Vector, TR30021, included for free.
RefSeq:	NM_003570, NR_002174, NR_027626, NM_003570.2, BC022302, BC032500, BC059791

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Summary:

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-acetylneuraminic acid (Neu5Ac) and its hydroxylated derivative, N-glycolylneuraminic 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 absense of Neu5Gc in humans is due to a deletion within the human gene CMAH encoding cytidine monophosphate-N-acetylneuraminic 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. [provided by RefSeq, Jul 2008]

shRNA Design:

These shRNA constructs were designed against multiple splice variants at this gene locus. To be certain that your variant of interest is targeted, please contact techsupport@origene.com. If you need a special design or shRNA sequence, please utilize our custom shRNA service.

Performance Guaranteed:

OriGene guarantees that the sequences in the shRNA expression cassettes are verified to correspond to the target gene with 100% identity. One of the four constructs at minimum are guaranteed to produce 70% or more gene expression knock-down provided a minimum transfection efficiency of 80% is achieved. Western Blot data is recommended over qPCR to evaluate the silencing effect of the shRNA constructs 72 hrs post transfection. To properly assess knockdown, the gene expression level from the included scramble control vector must be used in comparison with the target-specific shRNA transfected samples.

For non-conforming shRNA, requests for replacement product must be made within ninety (90) days from the date of delivery of the shRNA kit. To arrange for a free replacement with newly designed constructs, please contact Technical Services at techsupport@origene.com. Please provide your data indicating the transfection efficiency and measurement of gene expression knockdown compared to the scrambled shRNA control (Western Blot data preferred).