

Recombinant Human GNE, His-tagged

Cat. No. GNE-94H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human Bifunctional UDP-N-Acetylglucosamine 2-Epimerase/N-Acetylmannosamine Kinase/GNE is produced by our mammalian expression system in human cells. The target protein is expressed with sequence (Met1-Tyr722) of Human GNE fused with a 6His tag at the C-terminus.
Species	Human
Source	HEK293
Description	Bifunctional UDP-N-Acetylglucosamine 2-Epimerase/N-Acetylmannosamine Kinase (GNE) contains two regions: UDP-N-acetylglucosamine 2-epimerase that belongs to the UDP-N-acetylglucosamine 2-epimerase family and N-acetylmannosamine kinase that belongs to the ROK (NagC/XylR) family. GNE localizes to the cytoplasm and exists as a homodimer and homohexamer. GNE is widely expressed, with the highest levels observed in the liver and placenta. GNE regulates and initiates biosynthesis of N-acetylneuraminic acid (NeuAc), a precursor of sialic acids. It is required for normal sialylation in hematopoietic cells. Sialylation is implicated in cell adhesion, signal transduction, tumorigenicity, and metastatic behavior of malignant cells. In addition, GNE plays an essential role in early development.
AA Sequence	MEKNGNNRKLRVCVATCNRADYSKLAPIMFGIKTEPEFFELDVVVLGSHLIDDDYGNTRYMIEQDD FDINTRLHTIVRGEDEAAMVESVGLALVKLPDVLNRLKPDIMIVHGDRFDALALATSAALMNIRI LHIEGGEVSGTIDDSIRHAITKLAHYHVCCTRSAEQHLISMCEDHDRILLAGCPSYDKLLSAKNK DYMSIIRMWLGDDVKSKDYIVALQHPVTTDIKHSIKM

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FELTLDALISFNKRTLVLFPNIDAGSKE MVRVMRKKGIEHHPNFRAVKHVPFDQFIQL
 VAHAGCMIGNSSCGVREVGAFGTPVINLGTRQIGR ETGENVLHVRDADTQDKILQA
 LHLQFGKQYPCSKIYGDGNAVPRILKFLKSIDLQEPLQKKFCFP PVKENISQDIDHILE
 TLSALAVDLGGTNLRVAIVSMKGEIVKKYTQFNPKTYEERINLILQMCVE AAAEAVKL
 NCRILGVGISTGGRVNPREGIVLHSTKLIQEWNSVDLRTPLSDTLHLPVWVDNDGNC
 AALAERKFGQGKLENFVTLITGTGIGGGIIHQHELIHGSSFCAAELGHLVVS LDGPD
 CSCGSHG CIEAYASGMALQREAKKLHDEDLLLVEGMSVPKDEAVGALHLIAAKLG
 NAKAQSLRTAGTALG LGVVNLTHTMNP SLVILSGVLASHYIHIVKDVIRQQALSSVQD
 VDVVSDLVDPALLGAASMVLDTTTRRIYVDHHHHHH

Endotoxin Less than 0.1 ng/μg (1 IEU/μg).

Purity Greater than 95% as determined by reducing SDS-PAGE.

GENE INFORMATION

Gene Name GNE glucosamine (UDP-N-acetyl)-2-epimerase/N-acetylmannosamine kinase [Homo sapiens]

Official Symbol GNE

Synonyms GNE; glucosamine (UDP-N-acetyl)-2-epimerase/N-acetylmannosamine kinase; IBM2, UDP N acetylglucosamine 2 epimerase/N acetylmannosamine kinase; bifunctional UDP-N-acetylglucosamine 2-epimerase/N-acetylmannosamine kinase; Uae1; N-acylmannosamine kinase; UDP-GlcNAc-2-epimerase/ManAc kinase; UDP-N-acetylglucosamine 2-epimerase/N-acetylmannosamine kinase; UDP-N-acetylglucosamine-2-epimerase/N-acetylmannosamine kinase; NM; DMRV; IBM2; GLCNE;

Gene ID 10020

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mRNA Refseq	NM_001128227
Protein Refseq	NP_001121699
MIM	603824
UniProt ID	Q9Y223
Chromosome Location	9p13.1
Pathway	Amino sugar and nucleotide sugar metabolism, organism-specific biosystem; Amino sugar and nucleotide sugar metabolism, conserved biosystem; CMP-N-acetylneuraminate biosynthesis I (eukaryotes), organism-specific biosystem; Metabolic pathways, organism-specific biosystem;
Function	ATP binding; N-acylmannosamine kinase activity; UDP-N-acetylglucosamine 2-epimerase activity; isomerase activity; kinase activity; nucleotide binding; transferase activity;