10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

GNE Antibody

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP50603

Product Information

Application	WB, IHC
Primary Accession	Q9Y223
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	polyclonal
Calculated MW	79275

Additional Information

Gene ID	10020
Other Names	Bifunctional UDP-N-acetylglucosamine 2-epimerase/N-acetylmannosamine kinase, UDP-GlcNAc-2-epimerase/ManAc kinase, UDP-N-acetylglucosamine 2-epimerase (hydrolyzing), UDP-GlcNAc-2-epimerase, Uridine diphosphate-N-acetylglucosamine-2-epimerase, N-acetylmannosamine kinase, ManAc kinase, GNE, GLCNE
Dilution	WB~~ 1:500 IHC~~1:50-1:100
Format	Rabbit IgG in phosphate buffered saline (without Mg2+ and Ca2+), pH 7.4, 150mM NaCl, 0.09% (W/V) sodium azide and 50% glycerol.
Storage Conditions	-20℃

Protein Information

Name	GNE (HGNC:23657)
Function	Bifunctional enzyme that possesses both UDP-N- acetylglucosamine 2-epimerase and N-acetylmannosamine kinase activities, and serves as the initiator of the biosynthetic pathway leading to the production of N-acetylneuraminic acid (NeuAc), a critical precursor in the synthesis of sialic acids. By catalyzing this pivotal and rate-limiting step in sialic acid biosynthesis, this enzyme assumes a pivotal role in governing the regulation of cell surface sialylation, playing a role in embryonic angiogenesis (PubMed:10334995, PubMed:11326336, PubMed:14707127, PubMed:16503651, PubMed:2808337, PubMed:38237079). Sialic acids represent a category of negatively charged sugars that reside on the surface of cells as terminal components of glycoconjugates and mediate important functions in various cellular processes, including cell adhesion, signal transduction, and cellular recognition (PubMed:10334995, PubMed:14707127).

Cellular Location	Cytoplasm, cytosol {ECO:0000250|UniProtKB:O35826}
Tissue Location	Highest expression in liver and placenta. Also found in heart, brain, lung, kidney, skeletal muscle and pancreas Isoform 1 is expressed in heart, brain, kidney, liver, placenta, lung, spleen, pancreas, skeletal muscle and colon. Isoform 2 is expressed mainly in placenta, but also in brain, kidney, liver, lung, pancreas and colon. Isoform 3 is expressed at low level in kidney, liver, placenta and colon.

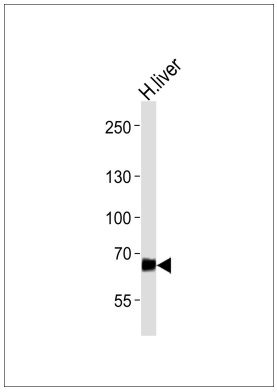
Background

Regulates and initiates biosynthesis of N- acetylneuraminic acid (NeuAc), a precursor of sialic acids. Plays an essential role in early development (By similarity). Required for normal sialylation in hematopoietic cells. Sialylation is implicated in cell adhesion, signal transduction, tumorigenicity and metastatic behavior of malignant cells.

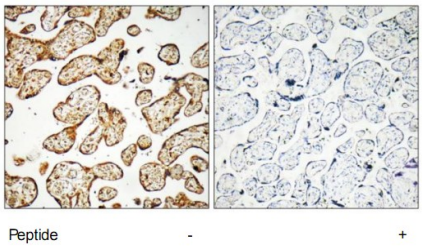
References

Lucka L.,et al.FEBS Lett. 454:341-344(1999).
Seppala R.,et al.Am. J. Hum. Genet. 64:1563-1569(1999).
Wang S.S.,et al.Submitted (JUN-1999) to the EMBL/GenBank/DDBJ databases.
Huizing M.,et al.Submitted (OCT-2000) to the EMBL/GenBank/DDBJ databases.
Pramono Z.A.D.,et al.Submitted (AUG-2007) to the EMBL/GenBank/DDBJ databases.

Images



Western blot analysis of lysate from human liver tissue lysate,using GNE Antibody(AP50603). AP50603 was diluted at 1:500. A goat anti-rabbit IgG H&L(HRP) at 1:5000 dilution was used as the secondary antibody.Lysate at 35ug.



Immunohistochemistry analysis of paraffin-embedded human placenta tissue, using GNE antibody.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.