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GNE Antibody (N-term)
Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP12285a

Specification

GNE Antibody (N-term) - Product Information

Application	**IHC-P, WB,E**
Primary Accession	Q9Y223
Other Accession	O35826, Q91WG8, Q7TQ49, NP_001121699.1, NP_005467.1
Reactivity	**Human**
Predicted	**Hamster, Mouse, Rat**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Calculated MW	**79275**
Antigen Region	**169-197**

GNE Antibody (N-term) - 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

Target/Specificity
This GNE antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 169-197 amino acids from the N-terminal region of human GNE.

Dilution
IHC-P~~1:10~50
WB~~1:1000
E~~Use at an assay dependent concentration.

Format
Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

Storage
Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
GNE Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

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GNE Antibody (N-term) - 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}

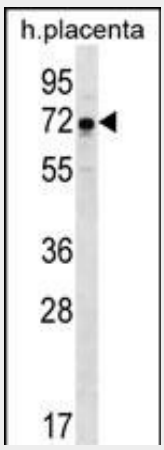
Tissue Location
Highest expression in liver and placenta. Also found in heart, brain, lung, kidney, skeletal muscle and pancreas Isoform 1 is expressed in heart, brain, kidney, liver, placenta, lung, spleen, pancreas, skeletal muscle and colon. Isoform 2 is expressed mainly in placenta, but also in brain, kidney, liver, lung, pancreas and colon. Isoform 3 is expressed at low level in kidney, liver, placenta and colon.

GNE Antibody (N-term) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

GNE Antibody (N-term) - Images



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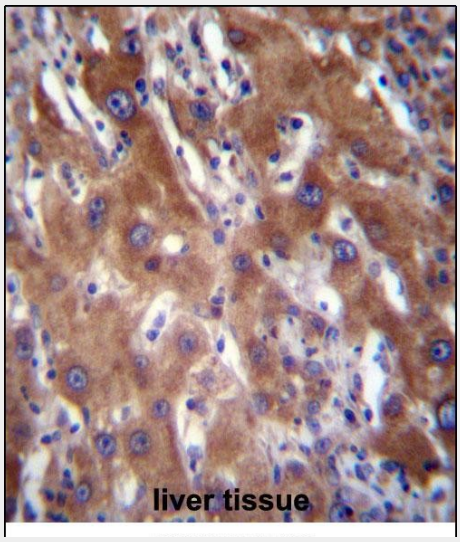
GNE Antibody (N-term) (Cat. #AP12285a) western blot analysis in human placenta tissue lysates (35ug/lane).This demonstrates the GNE antibody detected the GNE protein (arrow).



GNE Antibody (N-term) (Cat. #AP12285a)immunohistochemistry analysis in formalin fixed and paraffin embedded human liver tissue followed by peroxidase conjugation of the secondary antibody and DAB staining.This data demonstrates the use of GNE Antibody (N-term) for immunohistochemistry. Clinical relevance has not been evaluated.

GNE Antibody (N-term) - Background

The protein encoded by this gene is a bifunctional enzyme that initiates and regulates the biosynthesis of N-acetylneuraminic acid (NeuAc), a precursor of sialic acids. It is a rate-limiting enzyme in the sialic acid biosynthetic pathway. Sialic acid modification of cell surface molecules is crucial for their function in many biologic processes, including cell adhesion and signal transduction. Differential sialylation of cell surface molecules is also implicated in the tumorigenicity and metastatic behavior of malignant cells. Mutations in this gene are associated with sialuria, autosomal recessive inclusion body myopathy, and Nonaka myopathy. Alternative splicing of this gene results in transcript variants encoding different isoforms. [provided by RefSeq].

GNE Antibody (N-term) - References

Stober, A., et al. Neuromuscul. Disord. 20(5):335-336(2010)
Reinke, S.O., et al. Glycoconj. J. 26(4):415-422(2009)
Tong, Y., et al. PLoS ONE 4 (10), E7165 (2009) :
Reinke, S.O., et al. FEBS Lett. 581(17):3327-3331(2007)
Watts, G.D., et al. Neuromuscul. Disord. 13 (7-8), 559-567 (2003) :