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NAGK Antibody (N-term)
Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7080A

Specification

NAGK Antibody (N-term) - Product Information

Application	**WB,E**
Primary Accession	Q9UJ70
Other Accession	Q3SZM9, NP_060037
Reactivity	**Human, Mouse**
Predicted	**Bovine**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Calculated MW	**37376**
Antigen Region	**31-61**

NAGK Antibody (N-term) - Additional Information

Gene ID 55577

Other Names
N-acetyl-D-glucosamine kinase, N-acetylglucosamine kinase, GlcNAc kinase, NAGK

Target/Specificity
This NAGK antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 31-61 amino acids from the N-terminal region of human NAGK.

Dilution
WB~~1:1000

Format
Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.

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

NAGK Antibody (N-term) - Protein Information

Name NAGK {ECO:0000303|PubMed:36002575, ECO:0000312|HGNC:HGNC:17174}

Function Converts endogenous N-acetylglucosamine (GlcNAc), a major component of complex

carbohydrates, from lysosomal degradation or nutritional sources into GlcNAc 6-phosphate (PubMed:22692205). Involved in the N-glycolylneuraminic acid (Neu5Gc) degradation pathway: although human is not able to catalyze formation of Neu5Gc due to the inactive CMAHP enzyme, Neu5Gc is present in food and must be degraded (PubMed:22692205). Also has N-acetylmannosamine (ManNAc) kinase activity (By similarity). Also involved in innate immunity by promoting detection of bacterial peptidoglycan by NOD2: acts by catalyzing phosphorylation of muramyl dipeptide (MDP), a fragment of bacterial peptidoglycan, to generate 6-O-phospho-muramyl dipeptide, which acts as a direct ligand for NOD2 (PubMed:36002575).

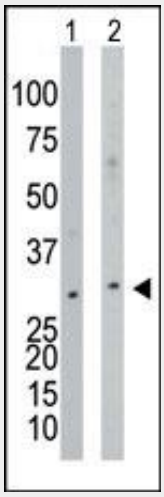
Tissue Location
Ubiquitous..

NAGK 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

NAGK Antibody (N-term) - Images



The anti-NAGK Pab (Cat. #AP7080a) is used in Western blot to detect NAGK in mouse thymus tissue lysate (Lane 1) and Y79 cell lysate (Lane 2).

NAGK Antibody (N-term) - Background

N-acetylglucosamine kinase (NAGK) converts endogenous N-acetylglucosamine (GlcNAc), a major component of complex carbohydrates, from lysosomal degradation or nutritional sources into GlcNAc 6-phosphate. NAGK belongs to the group of N-acetylhexosamine kinases and is a prominent salvage enzyme of amino sugar metabolism in mammals. The predicted 344-amino acid NAGK protein contains the 5 sequence motifs necessary for the binding of ATP by sugar kinases. NAGK shares 91.6% amino acid similarity with mouse Nagk, for which enzyme activity is detectable in all mouse tissues examined, with highest enzymatic activity in testis. It is hypothesized that NAGK has

a general role in the catabolic pathways of GlcNAc as well as of ManNAc.

NAGK Antibody (N-term) - References

Hinderlich, S., et al., Eur. J. Biochem. 267(11):3301-3308 (2000).
Lowes, W., et al., Biochim. Biophys. Acta 1379(1):134-142 (1998).
Weidanz, J.A., et al., Br. J. Haematol. 95(4):645-653 (1996).