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NAGK Antibody (C-term) Blocking Peptide

Synthetic peptide
Catalog # BP7080b

Specification

NAGK Antibody (C-term) Blocking Peptide - Product Information

Primary Accession	Q9UJ70
Other Accession	NP_060037

NAGK Antibody (C-term) Blocking Peptide - Additional Information

Gene ID 55577

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

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP7080b was selected from the C-term region of human NAGK. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

NAGK Antibody (C-term) Blocking Peptide - 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:<a href="http://www.uniprot.org/citations/36002575"

target="_blank">36002575).

Tissue Location
Ubiquitous..

NAGK Antibody (C-term) Blocking Peptide - Protocols

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

- Blocking Peptides

NAGK Antibody (C-term) Blocking Peptide - Images

NAGK Antibody (C-term) Blocking Peptide - 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 (C-term) Blocking Peptide - 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).