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Guanylate kinase (GUK1) Antibody (N-term) Blocking peptide

Synthetic peptide
Catalog # BP7070a

Specification

Guanylate kinase (GUK1) Antibody (N-term) Blocking peptide - Product Information

Primary Accession	Q16774
Other Accession	NP_000849

Guanylate kinase (GUK1) Antibody (N-term) Blocking peptide - Additional Information

Gene ID 2987

Other Names
Guanylate kinase, GMP kinase, GUK1, GMK

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP7070a was selected from the N-term region of human GUK1. 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.

Guanylate kinase (GUK1) Antibody (N-term) Blocking peptide - Protein Information

Name GUK1 {ECO:0000303|PubMed:8647247, ECO:0000312|HGNC:HGNC:4693}

Function
Catalyzes the phosphorylation of GMP to GDP. Essential enzyme for recycling GMP and indirectly, cyclic GMP (cGMP) (PubMed:31201273). Involved in the cGMP metabolism in photoreceptors (By similarity). It may also have a role in the survival and growth progression of some tumors (PubMed:31201273). In addition to its physiological role, GUK1 is essential for convert prodrugs used for the treatment of cancers and viral infections into their pharmacologically active metabolites, most notably acyclovir, ganciclovir, and 6-thioguanine and its closely related analog 6-mercaptopurine (PubMed:197968, PubMed:6248551, PubMed:6306664).

Cellular Location
Photoreceptor inner segment {ECO:0000250|UniProtKB:Q64520}. Cytoplasm, cytosol {ECO:0000250|UniProtKB:Q64520}. Note=Colocalizes with RD3 in photoreceptor inner segments and to a lesser extent in the outer plexiform layer. {ECO:0000250|UniProtKB:Q64520}

Tissue Location
Widely expressed..

Guanylate kinase (GUK1) Antibody (N-term) Blocking peptide - Protocols

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

- Blocking Peptides

Guanylate kinase (GUK1) Antibody (N-term) Blocking peptide - Images

Guanylate kinase (GUK1) Antibody (N-term) Blocking peptide - Background

Guanylate kinase catalyzes the transfer of phosphate from adenosine triphosphate (ATP) to guanosine monophosphate (GMP) or dGMP. This enzyme functions in the recovery of cGMP and is, therefore, thought to regulate the supply of guanine nucleotides to signal transduction pathways. The GUK2 and GUK3 isoforms are determined by separate loci. Brady et al. (1996) cloned human and mouse cDNAs of GUK1. They stated that the guanylate kinases are targets for cancer chemotherapy and are inhibited by the antitumor drug 6-thioguanine. They reported that the human gene codes for a protein of 197 amino acids with a mass of 21.7 kD. They found that the 1-kb message was ubiquitously expressed.

Guanylate kinase (GUK1) Antibody (N-term) Blocking peptide - References

Brady, W.A., et al., J. Biol. Chem. 271(28):16734-16740 (1996).Fitzgibbon, J., et al., FEBS Lett. 385(3):185-188 (1996).Savitskii, I.V., Ukr. Biokhim. Zh. 62(2):110-114 (1990).Boritzki, T.J., et al., Biochim. Biophys. Acta 658(1):102-110 (1981).Dallapiccola, B., et al., Ann. Genet. 23(2):83-85 (1980).