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GCKR Blocking Peptide (N-Term)

Synthetic peptide
Catalog # BP21592a

Specification

GCKR Blocking Peptide (N-Term) - Product Information

Primary Accession Q14397

GCKR Blocking Peptide (N-Term) - Additional Information

Gene ID 2646

Other Names
Glucokinase regulatory protein, GKRP, Glucokinase regulator, GCKR

Target/Specificity
The synthetic peptide sequence is selected from aa 40-52 of HUMAN GCKR

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.

GCKR Blocking Peptide (N-Term) - Protein Information

Name GCKR {ECO:0000303|PubMed:8589523, ECO:0000312|HGNC:HGNC:4196}

Function
Regulates glucokinase (GCK) by forming an inactive complex with this enzyme (PubMed:<a href="http://www.uniprot.org/citations/23621087"

GCKR Blocking Peptide (N-Term) - Background

Inhibits glucokinase (GCK) by forming an inactive complex with this enzyme. The affinity of GCKR for GCK is modulated by fructose metabolites: GCKR with bound fructose 6-phosphate has increased affinity for GCK, while GCKR with bound fructose 1-phosphate has strongly decreased affinity for GCK and does not inhibit GCK activity.

GCKR Blocking Peptide (N-Term) - References

Warner J.P.,et al.Mamm. Genome 6:532-536(1995).
Hayward B.E.,et al.Genomics 49:137-142(1998).
Ota T.,et al.Nat. Genet. 36:40-45(2004).
Hillier L.W.,et al.Nature 434:724-731(2005).
de la Iglesia N.,et al.FEBS Lett. 456:332-338(1999).

target="_blank">23621087, PubMed:23733961). Acts by promoting GCK recruitment to the nucleus, possibly to provide a reserve of GCK that can be quickly released in the cytoplasm after a meal (PubMed:10456334). The affinity of GCKR for GCK is modulated by fructose metabolites: GCKR with bound fructose 6-phosphate has increased affinity for GCK, while GCKR with bound fructose 1-phosphate has strongly decreased affinity for GCK and does not inhibit GCK activity (PubMed:23621087, PubMed:23733961).

Cellular Location
Cytoplasm. Nucleus. Mitochondrion {ECO:0000250|UniProtKB:Q07071}. Note=Under low glucose concentrations, GCKR associates with GCK and the inactive complex is recruited to the hepatocyte nucleus.

Tissue Location
Found in liver and pancreas. Not detected in muscle, brain, heart, thymus, intestine, uterus, adipose tissue, kidney, adrenal, lung or spleen.

GCKR Blocking Peptide (N-Term) - Protocols

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

- Blocking Peptides