

Product Specification Sheet

Glucokinase regulatory protein (GCKR or GKR) Antibodies

Cat. # GKR11-P	Mouse GKR control peptide # 1	SIZE: 100 ug
Cat. # GKR11-A	Rabbit Anti-Mouse GKR IgG # 1 (Aff pure)	SIZE: 100 ug

Hexokinase catalyzes the first step of several metabolic pathways by converting D-hexose to D-hexose-6-P. Hexokinase is an allosteric enzyme inhibited by its products glucose-6-phosphate. At least 4 related hexokinase isoforms (**HXKI-III; HXK-IV** also known as Glucokinase) have been cloned and characterized. Hexokinases (~100kDa for HXKI-III; HXKIV lacks the N-terminal domains and is ~50 kDa) are outer mitochondrial membrane proteins. The N-terminus, containing the mitochondrial target sequence, and the C-terminal has high sequence homology among various isoforms. The catalytic activity is associated with the C-terminus and other regulatory functions are controlled by the N-terminus.

Glucokinase (GCK) in the liver and pancreatic beta cells is subject to inhibition by a regulatory protein, GCKR or GKR. The inhibitory effect of GCKR depends on the presence of fructose-6-phosphate and is antagonized by fructose-1-phosphate. Mutations in GCKR might be diabetogenic if they resulted in the synthesis of proteins with increased inhibitory activity, perhaps reflecting increased sensitivity to fructose-6-phosphate or reduced susceptibility to antagonism by fructose-1-phosphate. The GCKR/GKR gene encodes a protein of 625 amino acids. Given the role of glucokinase in the causation of maturity-onset diabetes of the young (MODY) type II. GCKR had been considered a candidate gene for a form of MODY.

Source of Antigen, and Antibodies

Antigen	Mouse GKR is 587-aa protein. A 16-aa peptide of Mouse GKR/Gckr (gene accession # Q91X44, refs 1); Designated (GKR11-P or control peptide) conjugated to KLH. Epitope location ~ C-terminus
Ab Host/type	Rabbit, Polyclonal IgG, purified over antigen-agarose (Cat # GKR11-A)
2-Ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
-ve	# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as -ve control

Form & Storage of Antibodies/Peptide Control

Antiserum (unpurified)

100ul solution lyophilized powder
Supplied in Buffer: 0.05% azide
Reconstitute powder in 100 ul PBS

Affinity pure IgG

100 ug/100ul solution lyophilized powder
Supplied in **Buffer:** PBS+0.1% BSA
Reconstitute powder in PBS at 1mg/ml

Control/blocking peptide

100 ug/100 ul solution lyophilized powder
Supplied in Buffer: PBS pH 7.5,
Reconstitute powder in PBS at 1 mg/ml.

Storage

Short-term: unopened, undiluted liquid vials at -20OC and powder at 4oC or -20oC..

Long-term: at -20C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at -20oC or below.

Shipping: 4oC for solutions and room temp for powder

Recommended Usage

Western Blotting (1-10 ug/ml for affinity pure IgG using ECL).

ELISA: Control peptide can be used to coat ELISA plates at 1 ug/ml and detected with antibodies (0.5-1 ug/ml for affinity pure).

Histochemistry & Immunofluorescence: Not tested. We recommend the use of affinity purified antibody at 1-20 ug/ml in paraformaldehyde fixed sections of tissues.

Specificity & Cross-reactivity

Mouse GKR11-P control peptide is 100% conserved in rat, 81% in human/Chimp, and 79% in canine GKR proteins. No significant homology of GKR11-P is seen with HXK2-4. Antibody crossreactivity in various species is not known. Control peptide, because of its low mol. Wt (<3 kDa), is not suitable for Western. It should be used for ELISA or antibody blocking experiments (use 5-10 ug control peptide per 1 ug of aff pure IgG or 1 ul antiserum) to confirm antibody specificity (see detailed protocol at:the web site).

General References: Warner JP (1995) Mammalian Genome 6, 532-536; Hayward BE (1996) Mammalian Genome 7, 454-458; Hayward BE (1998) Genomics 49, 137-142; Grimsby J (2000) JBC 275, 7826-7831

(2) Citations of ADI's Antibodies for GKR

Please search for GKR publications at the web site

*This product is for In vitro research use only.

Related material available from ADI

Antibodies HXKI-4; GKR,

GKR11-A-P 71226S

India Contact:

Life Technologies (India) Pvt. Ltd.

306, Aggarwal City Mall, Opposite M2K Pitampura, Delhi - 110034 (INDIA). Ph: +91-11-42208000, 42208111, 42208222, Mobile: +91-9810521400, Fax: +91-11-42208444
Email: customerservice@lifetechindia.com Website: www.lifetechindia.com