

Product Specification Sheet

Hexokinase 4 (HXK4)/Glucokinase (Gck) Antibodies

Cat. # HXK43-P	Mouse HXK-4 control peptide # 3	SIZE: 100 ug
Cat. # HXK43-A	Rabbit Anti-Mouse HXK-4 IgG # 3 (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 HXK1-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. HXK4 (mouse 465 aa, isoforms 1) isoforms are produced by use of alternative promoters. The use of alternative promoters apparently enables the type IV hexokinase gene to be regulated by insulin in the liver and glucose in the beta cell. This may constitute an important feedback loop for maintaining glucose homeostasis. HXK4 isoform 2 (missing 122-138 aa) and HXK4-3 (isoforms 3) contains a different N-terminus from 1-15 aa (MLDDRRARMEATKKEK->MAMDTRCGAQLLTL). Alternative names for HXK4. EC 2.7.1.1, Hexokinase type IV, HK IV, HK4, Glucokinase (Gck).

Source of Antigen, and Antibodies

Antigen	19-aa peptide of mouse HXK4 (gene accession # P52792 for mouse and Q64596 for rat, refs 1); Designated (HXK43-P or control peptide) conjugated to KLH. Epitope location ~ C-terminus
Ab Host/type	Rabbit, Polyclonal IgG, purified over antigen-agarose (Cat # HXK43-A)
2-Ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
-ve control	# 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 antibody using Chemiluminescence technique.

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 HXK43-P control peptide is 100% conserved in mouse and rat HXK4 (isforms 1-3), 94% in human, and 80% in chicken HXK4 protein sequences. Since the HXK43-P epitope is located at the C-terminus, the antibodies should react with all 3 major isoforms of HXK4 (isoforms 1-3). No significant homology is seen with HXK1-3. 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: Palma F et al (1996) Mol Cell Biol. 155, 23-29; SCHWAB DA et al (1991) Arch biochem Biophys. 285, 365-370; Colosimo, A. et al (1996) Cytogenet. Cell Genet. 74: 187-188; . Furuta, H.(1996) Genomics 36: 206-209; Povey, et al (1975) Ann. Hum. Genet. 38: 407-415

(2) Citations of ADI's Antibodies for HXKs

Please search for HXk4 publications at.the web site

*This product is for In vitro research use only.

Related material available from ADI

Antibodies HXKI-III;
HXK43-A 70621A

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