ALPHA DIAGNOSTIC INTERNATIONAL

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Product Specification Sheet

Hexokinase 2 (HXK2/HK2) Antibodies

Cat. # HXK23-P	**Mouse** HXK-2 control peptide # 2	**SIZE**: 100 ug
Cat. # HXK23-A	**Rabbit** Anti-Mouse HXK-2 IgG # 2 (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. HXKII is located on chromosome 2. HXKII is the predominant isozyme that is expressed in young red cell, the skeletal muscle, adipose tissue, and reticulocytes. It is regulated by insulin. Defects in HXKII are a cause of monogenic autosomal dominant non-insulin-dependent diabetes mellitus type II (MODY-II or NIDDM).

Source of Antigen, and Antibodies

Antigen	Mouse HKX2/HK2 is 917 aa (100-110 kda). A 17-aa peptide of Mouse HXK2 (gene accession # P27881; refs 1); **Designated (HXK23-P or control peptide) conjugated to KLH. Epitope location** ~ N-terminus
Ab Host/type	Rabbit, Polyclonal IgG, purified over antigen-agarose (Cat # HXK23-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

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 HXK23-P control peptide is 100% conserved in rat, 94%human, 88% in pig, horse, and 87% in chicken, and 80% in zebra fish HXK2 protein sequences. No significant homology of HXK23-P is seen with HXK1, 3-4. 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: Deeb SS et al (1993) BBRC 197, 68-74; Shinohara Y et al (1994) Cancer Lett. 82, 27-32; Vidal-Puig A et al (1995) Diabetes 44, 340-346; Katzen HM et al (1995) PNAS 54, 1218-1225; Thelen AP et al (1991) ABB 286, 645-651; Rogers, P. A. et al (1975*Biochem. Genet.* 13: 857-866, 1975.

*This product is for In vitro research use only.

Related material available from ADI

Antibodies HXKI-III;

HXK23-A-P 71226S

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