

Product Specification Sheet

**Hexokinase 1-3(HXK1-3) Pan Antibodies**

Cat. # HXKX15-P	HXKX15 control peptide, pan	<b>SIZE:</b> 100 ug
Cat. # HXKX15-A	<b>Rabbit Anti-HXK1-3 IgG, pan (Aff pure)</b>	<b>SIZE:</b> 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. HXK1 is located on chromosome 10. It exists either as a cytosolic protein or as a protein associated with the outer mitochondrial membrane via an interaction with porin, a voltage-dependent anion channel. HXK1/HK1 is alternatively spliced into 3 isoforms: HK1-SA (975 aa) and HK1-SB and HK1-SC are alternatively spliced at Met-1 and Met-53. Isoform HK1-SA (1-974aa), isoform HK1-SB and isoform HK1-SC (53-974aa) are found only in spermatogenic cells. Isoform HK1-SC is detected in round spermatids, condensing spermatids and mature sperm where it is found in the head membranes, mitochondria of the midpiece and the fibrous sheath of the flagellum. Defects in HK1 gene causes hemolytic anemia.

**Source of Antigen, and Antibodies**

<b>Antigen</b>	15-aa peptide of Mouse HXK1/2 (1); <b>Designated (HXKX15-P or control peptide).</b> <b>Epitope location ~ C-terminus</b>
<b>Ab Host/type</b>	Rabbit, Polyclonal IgG, purified over antigen-agarose (Cat # <b>HXKX15-A</b> )
<b>2-Ab</b>	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
<b>-ve control</b>	# 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 -20°C and powder at 4°C or -20°C..

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

**Stability:** 6-12 months at -20°C or below.

**Shipping:** 4°C 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 aff pure IgG (5-20 ug/ml).

**Specificity & Cross-reactivity**

Mouse HXKX15-P control peptide is 100% conserved in HXK1 (mouse, rat, human, chicken, bovine, zoonpus, carp), HXK2 mouse, rat) and HXK3 (94% rat, human). The C-terminus of HXK1-3 is very conserved. HXKX15-P was selected to serve as a common epitope for HXK1-3. Antibody crossreactivity in various species and isoforms is not experimentally established. 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:** Nishi S et al (1988) BBRC 157, 937; Mgani M (1991) JBC 266, 502; Schwab DA (1989) PNAS 86, 2563; Arora KK (1990) JBC 265, 6481 Bianchi, M. et al (1995) *Blood Cells Molecules Dis.* 21: 2-8

\*This product is for In vitro research use only.

**Related material available from ADI**

Antibodies HXKI-III;

HXKX15-A-P

71226S

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