

Product Specification Sheet

Recombinant Human Hexokinase 2 (HXK-2/HK2)

Cat. # HXKX25-R-10

Recombinant purified human HXK-2 protein

SIZE: 10 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).

Synonyms:

Hexokinase-2, EC 2.7.1.1, HK2, Hexokinase type II, HK II, Muscle form hexokinase, HXK2, DKFZp686M1669.

Source of Antigen, and Antibodies

Recombinant Human HK1/HXK1 sequence

MGSSHHHHHH SSGLVPRGSH MIASHLLAYF FTELNHQVQ
 KVDQYLYHMR LSDETLLEIS KRFRKEMEKG LGATTHPTAA
 VKMLPTFVRS TPDGTEHGEF LALDLGGTNF RVLWVKVTDN
 GLQKVEMENQ IYAIPEIDMR GSGTQLFDHI AECLANFMDK
 LQIKDKKLPL GFTFSFPCHQTKLDESFLVS WTKGFKSSGV
 EGRDVVALIR KAIQRRGDFD IDIVAVVNDT VGTMMTCGYD
 DHNCEIGLIV GTGSNACYME EMRHIDMVEG DEGRMCINME
 WGAFGDDGSL NDIRTEFDQE IDMGSLNPGK QLFKEMISGM
 YMGELVRLIL VKMAKEELLF GGKLSPELLN
 TGRFETKDISDIEGEKDGIR KAREVLMRLG LDPTQEDCVA
 THRICQIVST RSASLCAATL AAVLQRIKENKGEERLRSTI
 GVDGSVYKKH PHFAKRLHKT VRRLVPGCDV RFLRSEDGSG
 KGAAMVTAVAYRLADQHRAR QKTLEHLQLS HDQLLEVKRR
 MKVEMERGLS KETHASAPVK MLPTYVCATPDGTEKGFLLA
 LDLGGTNFRV LLVVRVNGKW GGVMHNKIY AIPQEVMHGT
 GDELFDHIVQ CIADFLEYMG MKGVSLPLGF TFSFPCQONS
 LDESILLKWT KGFKASGCEG EDVVTLLKEA IHRREEFDLD
 VVAVVNDIVG TMMTCGFEDP HCEVGLIVGT GSNACYMEEM
 RNVELVEGEE GRMCVNMEWG AFGDNGCLDD FRTEFDVAVD
 ELSLNPQKQR FEKMISGMYL GEIVRNILID FTKRGLLFRG
 RISERLKTRG IFETKFLSQI ESDCLALLQV RAILQHLGLE
 STCDDSIIVK EVCTVVARA AQLCGAGMAA VVDRIENRG
 LDALKVTVGV DGTLYKLPH FAKVMHETVK DLAPKCDVSV
 LQSEDGSGKG AALITAVACR IREAGQR.

HK2 Human (917 aa; protein accession #P52789) Recombinant was expressed in E. coli as His-tag fusion protein and purified (95%). Purified HK1 is a single, non-glycosylated protein of ~105 kDa.

Recombinant human HK2/HXK2 protein is supplied in 20mM Tris, pH 8.0 in 10% Glycerol at 1 mg/ml (see lot specific concn on the vial). Store at -20oC for long term storage. A carrier protein (BSA or HSA) can be added at 0.1% to improve long term storage.

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

Shipping: 4°C for solutions and room temp for powder

Recommended Usage

Recombinant human HK2 can be used as antigen for ELISA or Western.

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;

HXKX25-R-10

80108A

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