

HXK II (45.6): sc-130376

BACKGROUND

The hexokinases utilize Mg-ATP as a phosphoryl donor to catalyze the first step of intracellular glucose metabolism, the conversion of glucose to glucose-6-phosphate. Four hexokinase isoenzymes have been identified, including hexokinase I (HXK I), hexokinase II (HXK II), hexokinase III (HXK III) and hexokinase IV (HXK IV, also designated glucokinase or GCK). Hexokinases I-III each contain an N-terminal cluster of hydrophobic amino acids. Glucokinase lacks the N-terminal hydrophobic cluster. The hydrophobic cluster is thought to be necessary for membrane binding. This is substantiated by the finding that glucokinase has lower affinity for glucose than do the other hexokinases. HXK I has been shown to be expressed in brain, kidney and heart tissues as well as in hepatoma cell lines. HXK II is involved in the uptake and utilization of glucose by adipose and skeletal tissues. Of the hexokinases, HXK III has the highest affinity for glucose. Glucokinase is expressed in pancreatic beta cells where it functions as a glucose sensor, determining the "set point" for insulin secretion.

REFERENCES

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- Arora, K.K., et al. 1990. Glucose phosphorylation in tumor cells. Cloning, sequencing, and overexpression in active form of a full-length cDNA encoding a mitochondrial bindable form of hexokinase. *J. Biol. Chem.* 265: 6481-6488.
- Stoeffel, M., et al. 1992. Human glucokinase gene: isolation, characterization, and identification of two missense mutations linked to early-onset non-insulin-dependent (type 2) diabetes mellitus. *Proc. Natl. Acad. Sci. USA* 89: 7698-7702.
- Deeb, S.S., et al. 1993. Human hexokinase II: sequence and homology to other hexokinases. *Biochem. Biophys. Res. Commun.* 197: 68-74.
- Palma, F., et al. 1996. Purification and characterization of the carboxyl-domain of human hexokinase type III expressed as fusion protein. *Mol. Cell. Biochem.* 155: 23-29.

CHROMOSOMAL LOCATION

Genetic locus: HK2 (human) mapping to 2p13.1; Hk2 (mouse) mapping to 6 C3.

SOURCE

HXK II (45.6) is a mouse monoclonal antibody raised against recombinant HXK II of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

HXK II (45.6) is recommended for detection of HXK II of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for HXK II siRNA (h): sc-35621, HXK II siRNA (m): sc-35622, HXK II shRNA Plasmid (h): sc-35621-SH, HXK II shRNA Plasmid (m): sc-35622-SH, HXK II shRNA (h) Lentiviral Particles: sc-35621-V and HXK II shRNA (m) Lentiviral Particles: sc-35622-V.

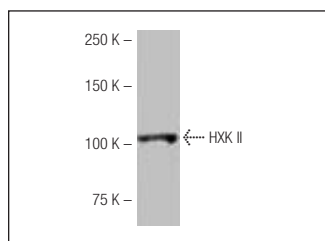
Molecular Weight of HXK II: 100 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Sol8 cell lysate: sc-2249 or A-10 cell lysate: sc-3806.

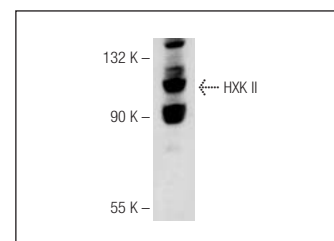
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



HXK II (45.6): sc-130376. Western blot analysis of HXK II expression in A-431 whole cell lysate.



HXK II (45.6): sc-130376. Western blot analysis of HXK II expression in HeLa whole cell lysate.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.