SANTA CRUZ BIOTECHNOLOGY, INC.

HXK II (1A7): sc-130358

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 β cells where it functions as a glucose sensor, determining the "set point" for Insulin secretion.

CHROMOSOMAL LOCATION

Genetic locus: HK2 (human) mapping to 2p12; Hk2 (mouse) mapping to 6 C3.

SOURCE

HXK II (1A7) is a mouse monoclonal antibody raised against full length recombinant HXK II of human origin.

PRODUCT

Each vial contains 50 µg IgG_1 kappa light chain in 500 µl of PBS with < 0.1% sodium azide, 0.1% gelatin and 1% glycerol.

APPLICATIONS

HXK II (1A7) 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), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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, HXK II (h3): 293T Lysate: sc-170641 or Jurkat whole cell lysate: sc-2204.

STORAGE

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

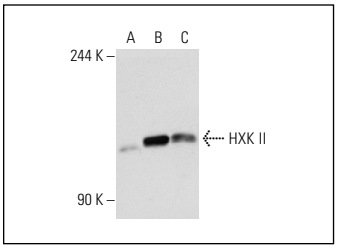
PROTOCOLS

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

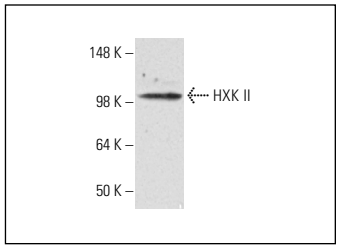
RESEARCH USE

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

DATA



HXK II (1A7): sc-130358. Western blot analysis of HXK II expression in non-transfected 293T: sc-117752 (**A**), human HXK II transfected 293T: sc-170641 (**B**) and HeLa (**C**) whole cell lysates.



HXK II (1A7): sc-130358. Western blot analysis of HXK II expression in Jurkat whole cell lysate.

SELECT PRODUCT CITATIONS

1. Archambaud, C., et al. 2013. The intestinal microbiota interferes with the microRNA response upon oral *Listeria* infection. MBio 4: e00707-e00713.
2. Deuse, T., et al. 2014. Dichloroacetate prevents restenosis in preclinical animal models of vessel injury. Nature 509: 641-644.
3. Li, Y.N., et al. 2015. The association between salt-inducible kinase 2 (SIK2) and γ isoform of the regulatory subunit B55 of PP2A (B55γ) contributes to the survival of glioma cells under glucose depletion through inhibiting the phosphorylation of S6K. Cancer Cell Int. 15: 21.
4. Jia, Y.Y., et al. 2016. MiR-592/WSB1/HIF-1α axis inhibits glycolytic metabolism to decrease hepatocellular carcinoma growth. Oncotarget 7: 35257-35269.
5. Pacheco-Velázquez, S.C., et al. 2018. Energy metabolism drugs block triple negative breast metastatic cancer cell phenotype. Mol. Pharm. 15: 2151-2164.
6. Xia, Z., et al. 2019. miR-652 promotes proliferation and migration of uveal melanoma cells by targeting HoxA9. Med. Sci. Monit. 25: 8722-8732.
7. Tramutola, A., et al. 2020. Brain Insulin resistance triggers early onset Alzheimer disease in Down syndrome. Neurobiol. Dis. 137: 104772.
8. Sousa, M.I., et al. 2020. Metabolic characterization of a paused-like pluripotent state. Biochim. Biophys. Acta Gen. Subj. 1864: 129612.
9. Wu, J., et al. 2020. Histone methyltransferase SETD1A interacts with HIF1α to enhance glycolysis and promote cancer progression in gastric cancer. Mol. Oncol. 14: 1397-1409.
10. Zonta, F., et al. 2021. Contribution of the CK2 catalytic isoforms α and α' to the glycolytic phenotype of tumor cells. Cells 10: 181.

CONJUGATES

See **HXK II (B-8): sc-374091** for HXK II antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.