SANTA CRUZ BIOTECHNOLOGY, INC.

Ketohexokinase (E-19): sc-50029

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. Ketohexokinase (hepatic fructokinase) belongs to the carbohydrate kinase pfkB family and requires potassium. It functions in the metabolism of dietary fructose in mammals, catalyzing the conversion of fructose to fructose-1-phosphate. Ketohexokinase is expressed most abundantly in kidney, liver, pancreas and spleen, while lower levels are seen in muscle, eye and brain. Mutations in KHK, the gene encoding for Ketohexokinase, cause fructosuria, a benign defect of intermediary metabolism characterized by the excretion of fructose in the urine.

REFERENCES

1. Khachadurian, A.K. 1964. Nonalimentary fructosuria. Pediatrics 32: 455-457.
2. Boesiger, P., Buchli, R., Meier, D., Steinmann, B. and Gitzelmann, R. 1995. Changes of liver metabolite concentrations in adults with disorders of fructose metabolism after intravenous fructose by 31P magnetic resonance spectroscopy. Pediatr. Res. 36: 436-440.
3. Bonthron, D.T., Brady, N., Donaldson, I.A. and Steinmann, B. 1995. Molecular basis of essential fructosuria: molecular cloning and mutational analysis of human Ketohexokinase (fructokinase). Hum. Mol. Genet. 3: 1627-16231.
4. Hayward, B.E. and Bonthron, D.T. 1998. Structure and alternative splicing of the Ketohexokinase gene. Eur. J. Biochem. 257: 85-91.
5. Funari, V.A. 2005. Genes required for fructose metabolism are expressed in Purkinje cells in the cerebellum. Brain Res. Mol. Brain Res.142: 115-122.
6. Fabbro, C. 2005. Analysis of regulatory regions of Emilin1 gene and their combinatorial contribution to tissue-specific transcription. J. Biol. Chem. 280: 15749-15760.

CHROMOSOMAL LOCATION

Genetic locus: KHK (human) mapping to 2p23.3; Khk (mouse) mapping to 5 B1.

SOURCE

Ketohexokinase (E-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Ketohexokinase of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-50029 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

Ketohexokinase (E-19) is recommended for detection of Ketohexokinase isoforms A and C 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)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

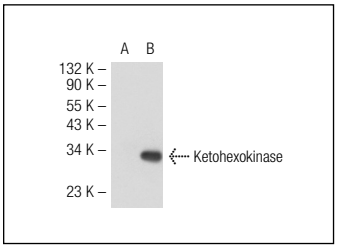
Ketohexokinase (E-19) is also recommended for detection of Ketohexokinase isoforms A and C in additional species, including equine, canine and porcine.

Suitable for use as control antibody for Ketohexokinase siRNA (h): sc-60878, Ketohexokinase siRNA (m): sc-60879, Ketohexokinase shRNA Plasmid (h): sc-60878-SH, Ketohexokinase shRNA Plasmid (m): sc-60879-SH, Ketohexokinase shRNA (h) Lentiviral Particles: sc-60878-V and Ketohexokinase shRNA (m) Lentiviral Particles: sc-60879-V.

Molecular Weight of Ketohexokinase: 33 kDa.

Positive Controls: Ketohexokinase (m): 293T Lysate: sc-121206 or human spleen extract: sc-363779.

DATA



Ketohexokinase (E-19): sc-50029. Western blot analysis of Ketohexokinase expression in non-transfected: sc-117752 (**A**) and mouse Ketohexokinase transfected: sc-121206 (**B**) 293T whole cell lysates.

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.