Human Ketohexokinase Antibody

Monoclonal Mouse IgG_1 Clone # 1020654

Catalog Number: MAB81771

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Ketohexokinase in direct ELISAs.
Source	Monoclonal Mouse IgG_1 Clone # 1020654
Purification	Protein A or G purified from cell culture supernatant
Immunogen	*E. coli*-derived human Ketohexokinase Met1-Val298 Accession # P50053
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 μm filtered solution in PBS.

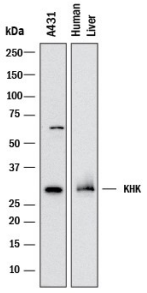
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	2 µg/mL	A431 human epithelial carcinoma cell line and human liver
Immunocytochemistry	8-25 µg/mL	Immersion fixed HepG2 human hepatocellular carcinoma cell line

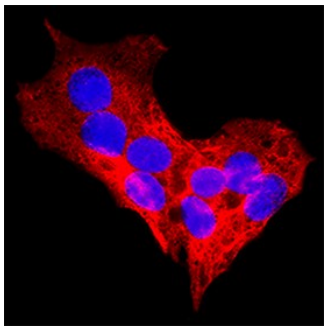
DATA

Western Blot



Detection of A431 human epithelial carcinoma cell line and human liver Ketohexokinase by Western Blot. Western blot shows lysates of A431 human epithelial carcinoma cell line and human liver. PVDF membrane was probed with 2 µg/mL of Mouse Anti-Human Ketohexokinase Monoclonal Antibody (Catalog # MAB81771) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF018). A specific band was detected for Ketohexokinase at approximately 30 kDa (as indicated). This experiment was conducted under reducing conditions and using Western Blot Buffer Group 1.

Immunocytochemistry



Ketohexokinase in HepG2 Human Cell Line. Ketohexokinase was detected in immersion fixed HepG2 human hepatocellular carcinoma cell line using Mouse Anti-Human Ketohexokinase Monoclonal Antibody (Catalog # MAB81771) at 8 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (red; Catalog # NL007) and counterstained with DAPI (blue). Specific staining was localized to cell cytoplasm. Staining was performed using our protocol for Fluorescent ICC Staining of Non-adherent Cells.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

KHK1 catalyzes conversion of fructose to fructose-1-phosphate (1). It is the first enzyme that catabolizes dietary fructose. Mutation of this protein is the molecular basis for essential fructosuria, a clinically benign condition characterized by the incomplete metabolism of fructose in the liver, leading to its excretion in urine (2, 3). Essential fructosuria does not have any clinical manifestations and no treatment is required. However, deficiency of aldolase B, the second enzyme involved in the metabolism of fructose results in the accumulation of fructose-1-phosphate in the blood, which causes fructosemia or hereditary fructose intolerance (4). High level of fructose-1-phosphate inhibits the production of glucose and results in diminished regeneration of adenosine triphosphate. Patients with fuctosemia have symptoms of elevated uric acid, growth abnormalities, and coma if untreated. Therefore, inhibition of KHK1 may lead to a cure for fructosemia. High level of expression of KHK1 is found in liver, kidney, gut, spleen and pancreas. Low levels of expression of KHK1 is found in heart, muscle, brain, and eye (3). The enzymatic activity of recombinant human KHK1 is measured using a phosphatase-coupled method (5).

References:

1. Trinh, C.H. et al. (2009) Acta. Crystallogr. D Biol Crystallogr. 65:201.
2. Zhang, X. et al. (2011) Bioorg. Med. Chem. Lett. 21:4762.
3. Bonthron, D.T. et al. (1994) Hum. Mol. Genet. 3:1627.
4. Kaiser, U.B. and Hegele, R. A. (1991). Am. J. Med. Sci. 302: 364.
5. Wu, Z.L. (2011) PLoS One 6:e23172.

bio-techne®
Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449