CREATIVE BIOMART®
Assay Kit

Human Hexokinase Inhibitor Screening Kit

Product Information

Cat.No. Kit-2111

Product Overview

Human Hexokinase II (HKII) Inhibitor Screening kit uses the HKII"s ability to convert glucose into glucose-6-phosphate. Glucose-6-phosphate is oxidized by glucose-6- phosphate dehydrogenase to form NADH, which reduces a probe that shows strong absorbance at 450 nm. In the presence of Bromopyruvic Acid, reactions are impeded, thus decreasing the rate and/or extent of generation of Hexokinase -dependent absorbance at OD 450 nm. Hexokinase Inhibitor Control is included to compare the efficacy of test inhibitors. This kit provides a sensitive, quick, and easy method for screening potential inhibitors of Hexokinase. The assay is high-throughput adaptable and can be performed in less than 30 min.

Size

100 assays

Description

Hexokinases (HK, EC: 2.7.1.1) are found in many organisms including bacteria, plants and mammals and play an important role in glucose metabolism. The Hexokinase family phosphorylates glucose and generates glucose-6-phosphate for glycolysis. Four Hexokinase isoforms (HK-I, II, III and IV) are found in numerous species. HK-I, HK-II and HK-III have low affinity for glucose, one of their natural substrates, while HK-IV show high affinity for this monosaccharide. Recent studies have found increased hexokinase activity in various human metastatic tumors. Moreover, Hexokinase II (HKII) is the main isoform of the Hexokinases and is responsible for malignant phenotypes. HKII binds to the outer mitochondrial membrane via the Voltage-Dependent Anion Channel (VDAC), a Porin-like protein. HKII has become an attractive therapeutic target for its role in cancer metastasis.

Applications

Screening/characterizing/studying potential inhibitors of human Hexokinase

Target Species

Human

Tel: 1-631-559-9269 1-516-512-3133
Email:info@creative-biomart.org
Fax:1-631-938-8127
45-1 Ramsey Road, Shirley, NY 11967, USA

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Storage

Store kit at -20°C, protected from light. Briefly centrifuge small vials prior to opening. Read entire protocol before performing the assay.HK Assay Buffer: Bring to room temperature before use. Store at -20 °C or 4°C.HK Coenzyme and HK Developer: Reconstitute each with 220 µl dH2O. Pipette up and down to dissolve completely. Store at -20°C. Use within two months. Keep on ice while in use.HK Converter: Reconstitute with 220 µl HK Assay Buffer. Aliquot and store at -20°C. Avoid freeze/thaw. Keep on ice while in use. Usewithin two months.Hexokinase II: Ready to use. Store at -20°C.HK Inhibitor Control: Reconstitute with 100 µl dH2O. Aliquot and store at -20°C. Avoid freeze/thaw. Keep on ice while in use. Use within two months.

Kit Components

HK Assay Buffer: 25 mlHK Substrate: 1 mlHK Coenzyme: 1 vialHK Converter: 1 vialHK Developer: 1 vialHexokinase II (human): 10 µlHK Inhibitor Control (Bromopyruvic Acid): 1 vial

Detection method Absorbance at 450 nm

Compatible Sample Types

Variable: Inhibitors, small molecules, proteins, etc.

Features & Benefits

• Simple and High throughput adaptable• Colorimetric Detection• Screen within 30 min

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