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Product datasheet

Hexokinase II Inhibitor Assay Kit (Colorimetric) ab211114

3 References 1 Image

Overview

Product name	Hexokinase II Inhibitor Assay Kit (Colorimetric)
Detection method	Colorimetric
Assay time	0h 30m
Product overview	Hexokinase II Inhibitor Screening Kit (Colorimetric) (ab211114) provides a sensitive, quick, and easy method for screening potential inhibitors of Hexokinase II (HK-II) in less than 30 minutes. The assay is based in the ability of HK-II 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 OD 450 nm. In the presence of a HK-II inhibitor such as Bromopyruvic Acid, the reaction is impeded, decreasing the rate or extent of generation of HK-II–dependent absorbance at OD 450 nm. This simple and high-throughput adaptable assay kit can be used to screen, study or characterize potential inhibitors of Hexokinase II.
Notes	This product is manufactured by BioVision, an Abcam company and was previously called K713 Human Hexokinase (HK) Inhibitor Screening Kit (Colorimetric). K713-100 is the same size as the 100 test size of ab211114. 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.
Platform	Microplate reader

Properties

Storage instructions	Store at -20°C. Please refer to protocols.

Components	100 tests
Hexokinase II (Human)	1 x 10µl
HK Assay Buffer	1 x 25ml
HK Coenzyme (25 mg)	1 vial
HK Converter (10 U)	1 vial
HK Developer (30 mg)	1 vial
HK Inhibitor Control (Bromopyruvic Acid) (50 µmol)	1 vial
HK Substrate	1 x 1ml

Tissue specificity Predominant hexokinase isozyme expressed in insulin-responsive tissues such as skeletal muscle.

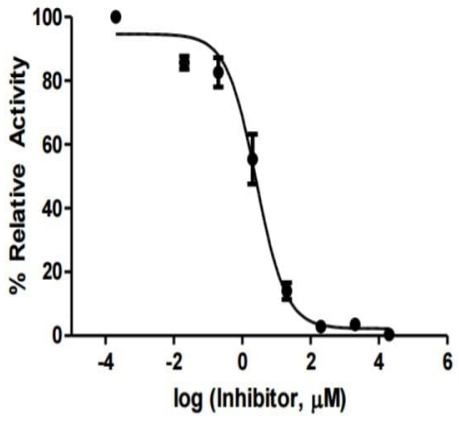
Pathway Carbohydrate metabolism; hexose metabolism.

Sequence similarities Belongs to the hexokinase family.
Contains 2 hexokinase domains.

Domain The N- and C-terminal halves of this hexokinase show extensive sequence similarity to each other. The catalytic activity is associated with the C-terminus while regulatory function is associated with the N-terminus. Each domain can bind a single glucose and Gluc-6-P molecule.

Cellular localization Mitochondrion outer membrane. Its hydrophobic N-terminal sequence may be involved in membrane binding.

Images



Hexokinase II Inhibitor Screening Kit (Colorimetric) (ab211114)

Typical inhibition curve of human Hexokinase II activity by the hexokinase inhibitor Bromopyruvic Acid. IC_{50} was determined to be 3 µM. Assay was performed following the kit protocol.

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