

Human Hexokinase II ELISA Kit ab219043

Recombinant SimpleStep ELISA

[7 Images](#)

Overview

Product name Human Hexokinase II ELISA Kit

Detection method Colorimetric

Precision

Intra-assay

Sample	n	Mean	SD	CV%
HeLa extract	8			3%

Inter-assay

Sample	n	Mean	SD	CV%
HeLa extract	3			5.7%

Sample type

Serum, Cell culture extracts, Tissue Extracts, Hep Plasma, EDTA Plasma, Cit plasma

Assay type

Sandwich (quantitative)

Sensitivity

11.37 pg/ml

Range

62.5 pg/ml - 4000 pg/ml

Recovery

Sample specific recovery

Sample type	Average %	Range
Serum	99	96% - 102%
Cell culture extracts	92	89% - 102%
Tissue Extracts	96	91% - 103%
Hep Plasma	101	98% - 106%
EDTA Plasma	102	97% - 106%
Cit plasma	96	91% - 99%

Assay time 1h 30m

Assay duration One step assay

Species reactivity **Reacts with:** Human

Product overview Human Hexokinase II ELISA Kit (ab219043) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of Hexokinase II protein in cell culture extracts, cit plasma, edta plasma, hep plasma, serum, and tissue extracts. It uses our proprietary SimpleStep ELISA® technology. Quantitate Human Hexokinase II with 11.37 pg/ml sensitivity.

SimpleStep ELISA® technology employs capture antibodies conjugated to an affinity tag that is recognized by the monoclonal antibody used to coat our SimpleStep ELISA® plates. This approach to sandwich ELISA allows the formation of the antibody-analyte sandwich complex in a single step, significantly reducing assay time. See the SimpleStep ELISA® protocol summary in the image section for further details. Our SimpleStep ELISA® technology provides several benefits:

- Single-wash protocol reduces assay time to 90 minutes or less
- High sensitivity, specificity and reproducibility from superior antibodies
- Fully validated in biological samples
- 96-wells plate breakable into 12 x 8 wells strips

A 384-well SimpleStep ELISA® microplate ([ab203359](#)) is available to use as an alternative to the 96-well microplate provided with SimpleStep ELISA® kits.

Notes Hexokinases are involved in the pathway of hexose metabolism, where they phosphorylate hexose to form hexose-6-phosphate. Phosphorylation of hexose restricts transport out of the cell, therefore retained intracellularly for metabolic processes including glycolysis and glycogen synthesis. Hexokinases also phosphorylate glucose to glucose-6-phosphate.

There are four mammalian hexokinases. Hexokinase II, also known as muscle form hexokinase, localizes to the outer membrane of mitochondria and is present in adipose tissue, skeletal muscle, and heart. Hexokinase II comprises of two homologous halves with both the C-terminal and N-terminal portions being catalytically active (with the N-terminal half having higher activity than the C-terminal half). Human Hexokinase I, mouse Hexokinase II, and rat Hexokinase II share 73.8%, 94.2%, and 94.4% in homology in amino acid sequence with human Hexokinase II, respectively.

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Platform Pre-coated microplate (12 x 8 well strips)

Properties

Storage instructions Store at +4°C. Please refer to protocols.

Components	1 x 96 tests
10X Human Hexokinase II Detector Antibody	1 x 600µl

Components	1 x 96 tests
10X Wash Buffer PT (ab206977)	1 x 20ml
50X Cell Extraction Enhancer Solution (ab193971)	1 x 1ml
5X Cell Extraction Buffer PTR (ab193970)	1 x 10ml
Antibody Diluent CPI2	1 x 6ml
Human Hexokinase II Capture Antibody (Lyophilized)	1 vial
Human Hexokinase II Lyophilized Recombinant Protein	2 vials
Plate Seals	1 unit
Sample Diluent NS (ab193972)	1 x 50ml
SimpleStep Pre-Coated 96-Well Microplate (ab206978)	1 unit
Stop Solution	1 x 12ml
TMB Development Solution	1 x 12ml

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.

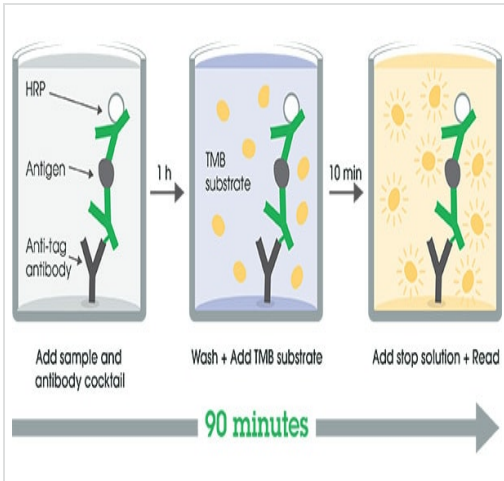
Domain

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

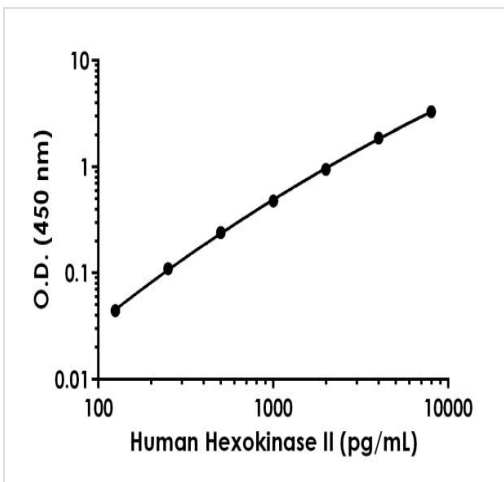
Mitochondrion outer membrane. Its hydrophobic N-terminal sequence may be involved in membrane binding.

Images



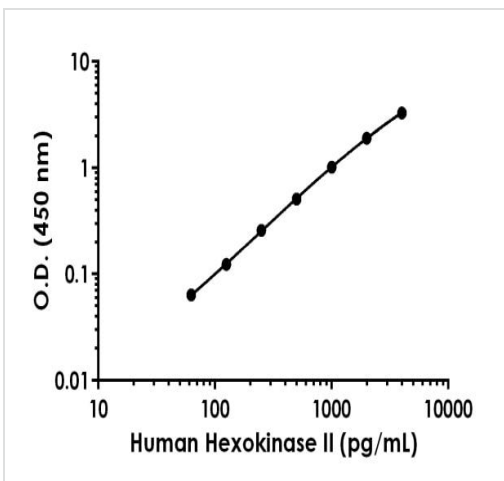
Other - Human Hexokinase II ELISA Kit (ab219043)

SimpleStep ELISA technology allows the formation of the antibody-antigen complex in one single step, reducing assay time to 90 minutes. Add samples or standards and antibody mix to wells all at once, incubate, wash, and add your final substrate. See protocol for a detailed step-by-step guide.



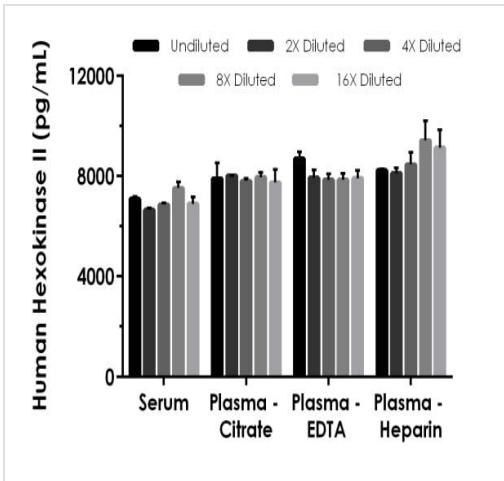
Example of human Hexokinase II standard curve in Sample Diluent NS.

Background-subtracted data values (mean +/- SD) are graphed.



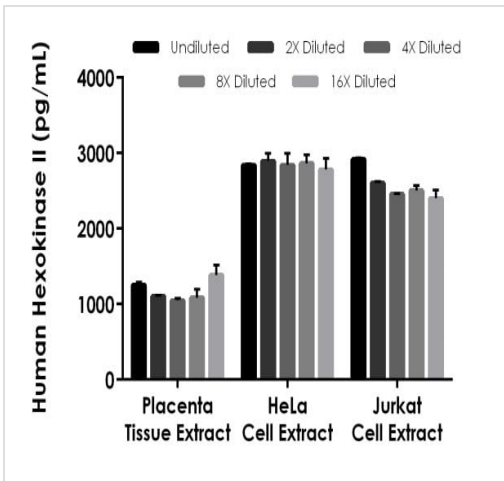
Example of human Hexokinase II standard curve in 1X Cell Extraction Buffer PTR.

Background-subtracted data values (mean +/- SD) are graphed.



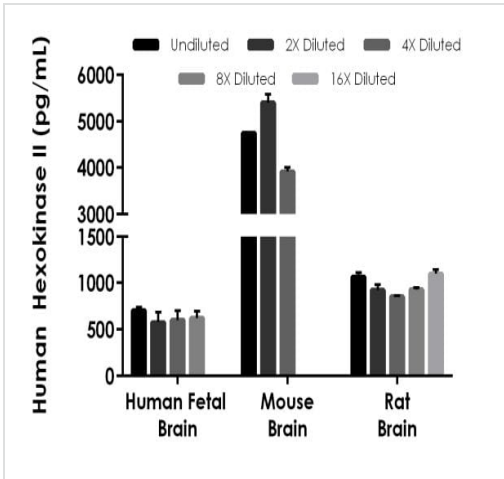
Interpolated concentrations of spiked Hexokinase II in human serum and plasma samples.

The concentrations of Hexokinase II were measured in duplicates, interpolated from the Hexokinase II standard curves and corrected for sample dilution. Undiluted samples are as follows: serum 50%, plasma (citrate) 50%, plasma (EDTA) 50%, and plasma (heparin) 50%. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean Hexokinase II concentration was determined to be 7,009.26 pg/mL in neat serum, 7,887.82 pg/mL in neat plasma (citrate), 8,052.65 pg/mL in neat plasma (EDTA), and 8,675.63 pg/mL in neat plasma (heparin).



Interpolated concentrations of native Hexokinase II in human placenta, HeLa, and Jurkat extract samples based on a 50 µg/mL extract load.

The concentrations of Hexokinase II were measured in duplicate and interpolated from the Hexokinase II standard curve and corrected for sample dilution. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean Hexokinase II concentration was determined to be 1,175.25 pg/mL in placenta extract, 2,844.72 pg/mL in HeLa extract, and 2,577.06 pg/mL in Jurkat extract.



The concentrations of Hexokinase II were measured in duplicate and interpolated from the Hexokinase II standard curve and corrected for sample dilution. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean Hexokinase II concentration was determined to be 624.25 pg/mL in human fetal brain extract, 4,691.00 pg/mL in mouse brain extract, and 973.64 pg/mL in rat brain extract.

Interpolated concentrations of native Hexokinase II in human fetal brain, mouse brain, and rat brain extract samples based on 25 µg/mL, 100 µg/mL, and 12.5 µg/mL extract loads, respectively.

Powered by recombinant antibodies

Research with confidence
Consistent and reproducible results

Long-term and scalable supply
Recombinant technology

Success from the first experiment
Confirmed specificity

Ethical standards compliant
Animal-free production

Sandwich ELISA - Human Hexokinase II ELISA Kit (ab219043)

To learn more about the advantages of recombinant antibodies see [here](#).

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