

Pyruvate Kinase Assay Kit ab83432

[27 References](#) [8 Images](#)

Overview

Product name	Pyruvate Kinase Assay Kit
Detection method	Colorimetric/Fluorometric
Sample type	Cell culture supernatant, Urine, Serum, Plasma, Other biological fluids, Tissue
Assay type	Enzyme activity (quantitative)
Sensitivity	= 0.1 mU/ml
Assay time	0h 40m
Product overview	Pyruvate Kinase Assay Kit ab83432 provides a simple, direct and automation-ready assay for measuring pyruvate kinase activity in cell culture supernatant, plasma, serum, tissue, urine and other biological fluids (not validated for use with whole blood).

In the pyruvate kinase assay protocol, PEP and ADP are catalyzed by pyruvate kinase to generate pyruvate and ATP. The generated pyruvate is oxidized by pyruvate oxidase to produce color (absorbance 570 nm) and fluorescence (Ex/Em 535/587 nm). Since the increase in color or fluorescence intensity is proportional to the increase in pyruvate amount, the PK activity can be accurately measured.

The kit detects 0.1 mU/ml pyruvate kinase.

Pyruvate kinase assay protocol summary:

- add samples and standards to wells
- add reaction mix
- analyze with microplate reader immediately and after 10-20 min

Notes This product is manufactured by BioVision, an Abcam company and was previously called K709 Pyruvate Kinase Activity Colorimetric/Fluorometric Assay Kit. K709-100 is the same size as the 100 test size of ab83432.

Pyruvate kinase (PK, EC 2.7.1.40) is an enzyme involved in glycolysis. It catalyzes the transfer of a phosphate group from phosphoenolpyruvate (PEP) to ADP, yielding one molecule of pyruvate and one molecule of ATP. Lack of pyruvate kinase will slow down the process of glycolysis which causes the disease known as pyruvate kinase deficiency.

Platform Microplate reader

Properties

Storage instructions

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

Components	Identifier	100 tests	2000 tests
OxiRed Probe	Red	1 x 200µl	20 x 200µl
PK Assay Buffer	WM	1 x 25ml	20 x 25ml
PK Enzyme Mix (Lyophilised)	Green	1 vial	20 vials
PK Positive Control (Lyophilised)	Blue	1 vial	20 vials
PK Substrate Mix (Lyophilised)	Purple	1 vial	20 vials
Pyruvate Standard (100 nmol/µl)	Yellow	1 x 100µl	20 x 100µl

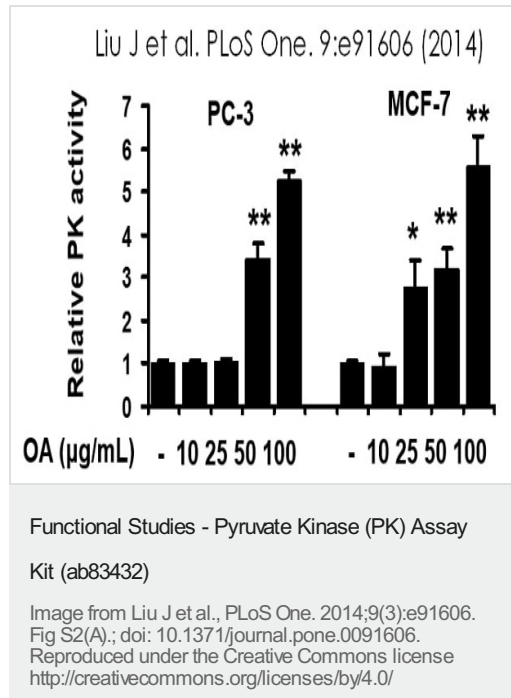
Relevance

Pyruvate kinase (PK, EC 2.7.1.40) is an enzyme involved in glycolysis. It catalyzes the transfer of a phosphate group from phosphoenolpyruvate (PEP) to ADP, yielding one molecule of pyruvate and one molecule of ATP. Lack of pyruvate kinase will slow down the process of glycolysis which causes the disease known as pyruvate kinase deficiency.

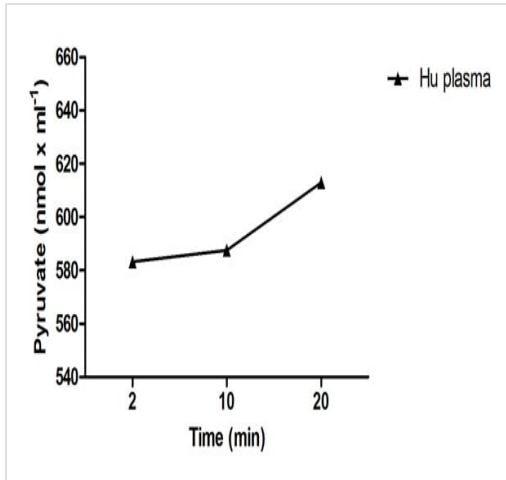
Cellular localization

Cytoplasmic and Nuclear

Images

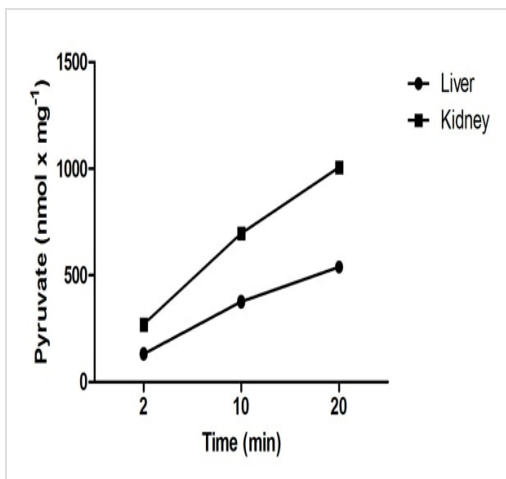


PC-3 and MCF-7 cells were treated with OA at the indicated doses and PK activity was determined 12 hr after OA treatment using ab83432. The average values of three independent experiments were shown as Mean \pm SD. *, $P < 0.05$, **, $P < 0.01$.



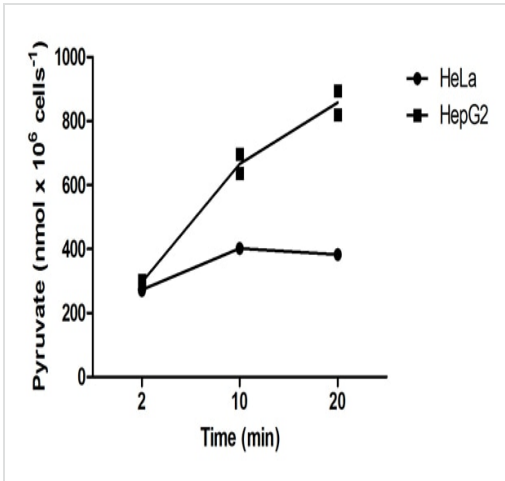
Pyruvate measured in biological fluid after 2 min, 10 min and 20 min incubation time showing quantity (nmol) per ml of tested sample.

Functional Studies - Pyruvate Kinase (PK) Assay
Kit (ab83432)



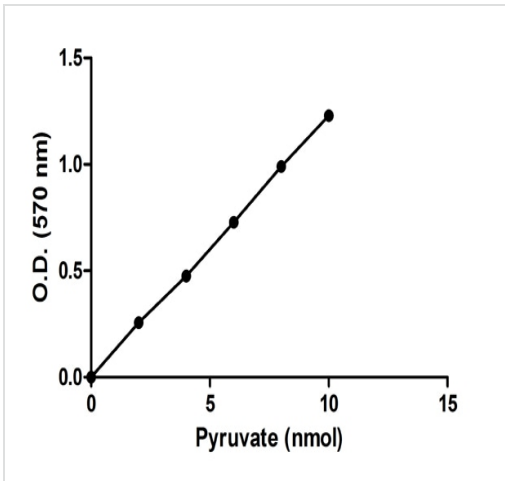
Pyruvate measured in mouse tissue lysates after 2 min, 10 min and 20 min incubation time showing quantity (nmol) per mg of tested sample.

Functional Studies - Pyruvate Kinase (PK) Assay
Kit (ab83432)



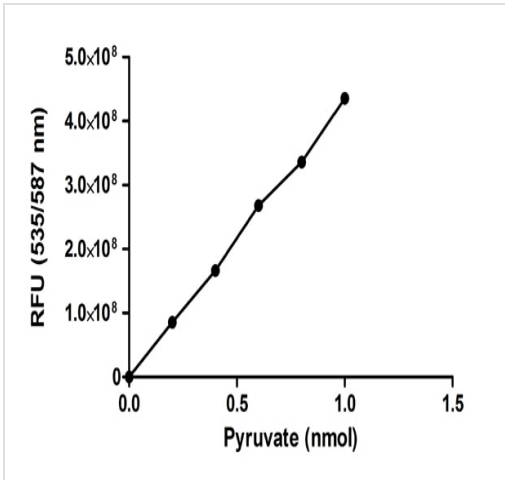
Pyruvate measured in cell lysates after 2 min, 10 min and 20 min incubation time showing quantity (nmol) per 1 mln of tested cells.

Functional Studies - Pyruvate Kinase (PK) Assay
Kit (ab83432)



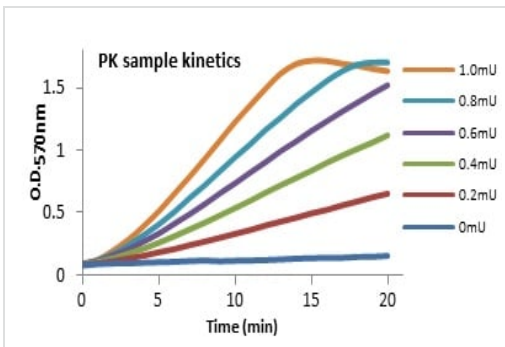
Colorimetric standard curve: mean of duplicates (+/- SD) with background reads subtracted.

Functional Studies - Pyruvate Kinase (PK) Assay
Kit (ab83432)



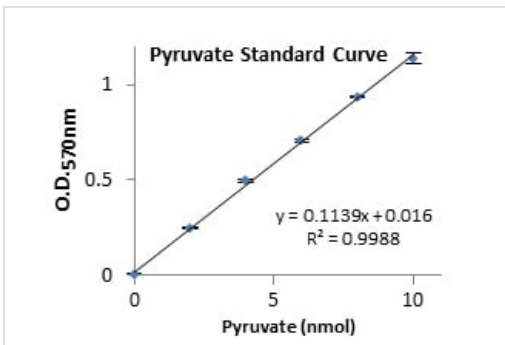
Fluorometric standard curve: mean of duplicates (+/- SD) with background reads subtracted.

Functional Studies - Pyruvate Kinase (PK) Assay
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Pyruvate kinase samples time line using ab83432.

Functional Studies - Pyruvate Kinase (PK) Assay
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Pyruvate standard curve using ab83432.

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