

Product datasheet

Pyruvate Assay Kit ab65342

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Overview

Product name	Pyruvate Assay Kit
Detection method	Colorimetric/Fluorometric
Sample type	Urine, Serum, Plasma, Cell culture extracts, Other biological fluids, Tissue Extracts
Assay type	Quantitative
Sensitivity	> 1 μ M
Range	1 μ M - 200 μ M
Assay time	0h 40m
Product overview	<p>Pyruvate Assay Kit (Colorimetric/Fluorometric) ab65342 provides a simple, direct and automation-ready procedure for measuring pyruvate concentration in various biological samples such as blood, cells, culture and fermentation media, etc.</p> <p>In the pyruvate assay protocol, pyruvate is oxidized by pyruvate oxidase via enzyme reactions to generate color ($\lambda = 570$ nm) and fluorescence (at Ex/Em = 535/587 nm). Since the color or fluorescence intensity is proportional to pyruvate content, the pyruvate concentration can be accurately measured.</p> <p>The kit detects 1-200 μM pyruvate.</p> <p>Pyruvate assay protocol summary:</p> <ul style="list-style-type: none">- add samples and standards to wells- add reaction mix and incubate for 30 min at room temp- analyze with microplate reader
Notes	<p>This product is manufactured by BioVision, an Abcam company and was previously called K609 Pyruvate Colorimetric/Fluorometric Assay Kit. K609-100 is the same size as the 100 test size of ab65342.</p>
Platform	Microplate reader

Properties

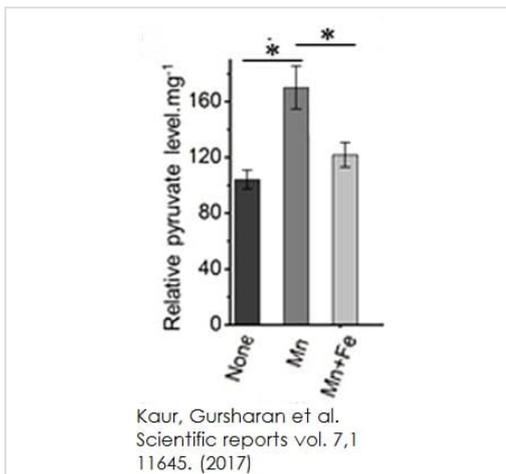
Storage instructions Store at -20°C. Please refer to protocols.

Components	Identifier	100 tests	2000 tests
Pyruvate Assay Buffer	WM	1 x 25ml	20 x 25ml
Pyruvate Enzyme Mix (Lyophilized)	Green	1 vial	20 vials
Pyruvate Probe (in DMSO)	Red	1 x 200µl	20 x 200µl
Pyruvate Standard (100 nmol/µl)	Yellow	1 x 100µl	20 x 100µl

Relevance

Pyruvate is a key intersection molecule in the network of metabolic pathways. Pyruvate can be made from glucose through glycolysis converted back to carbohydrates via gluconeogenesis, or to fatty acids or energy via acetyl CoA. It can also be used to construct the amino acid alanine and be converted to ethanol. Glucose is converted to pyruvate which is then converted into acetyl CoA, the main input for the citric acid cycle (TCA). If insufficient oxygen is available, pyruvate breaks down anaerobically, creating lactate in animals and ethanol in plants and microorganisms.

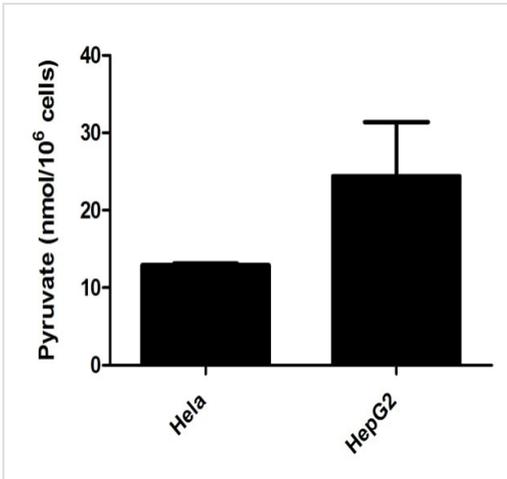
Images



Pyruvate levels under manganese stress and iron supplementation were measured with ab65342 and the results were plotted as a function of normalized absorbance at 450 nm per milligram of cellular proteins.

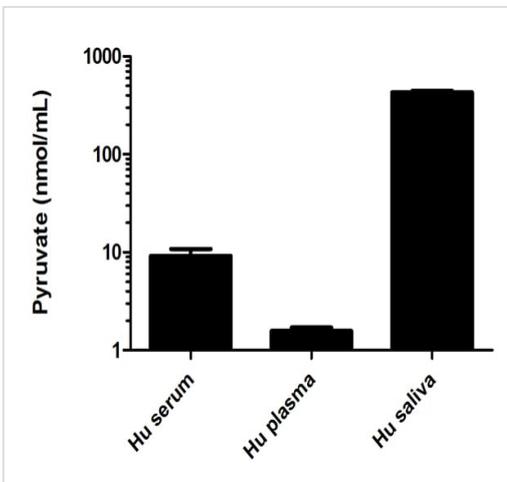
Functional Studies - Pyruvate Assay Kit (ab65342)

Kaur, Gursharan et al., Scientific reports vol. 7,1 11645.,
Fig 2, doi:10.1038/s41598-017-12004-3



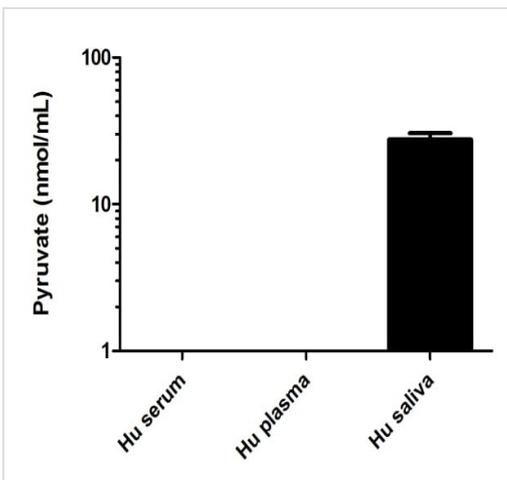
Pyruvate measured fluorometrically in biological fluids showing quantity (nmol) per mln of tested cells

Functional Studies - Pyruvate Assay Kit (ab65342) - Fluorometric



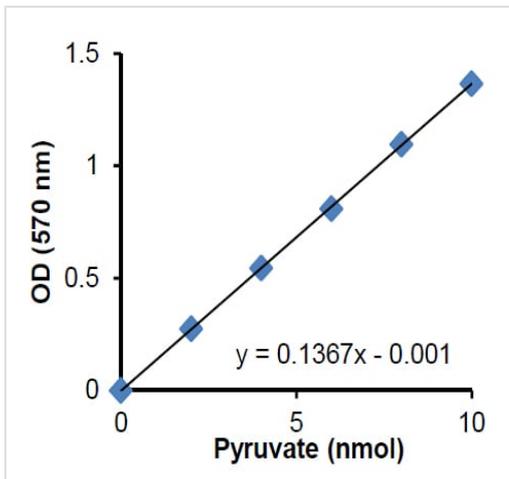
Pyruvate measured fluorometrically in biological fluids showing quantity (nmol) per mL of tested sample

Functional Studies - Pyruvate Assay Kit (ab65342) - Fluorometric



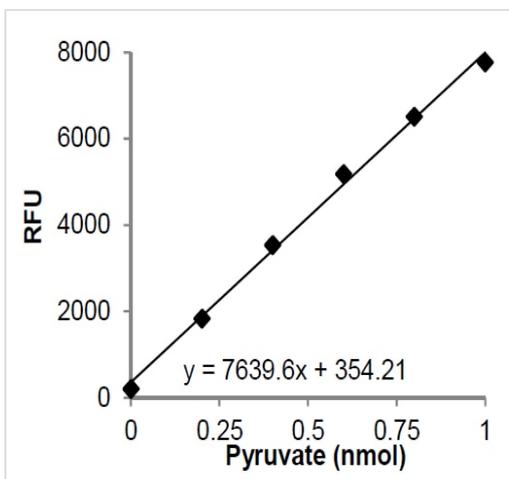
Pyruvate measured colourimetrically in biological fluids showing quantity (nmol) per mL of tested sample

Functional Studies - Pyruvate Assay Kit (ab65342) - Colourimetric



Pyruvate colorimetric standard curve.

Functional Studies - Pyruvate Assay Kit (ab65342)



Pyruvate fluorometric standard curve.

Functional Studies - Pyruvate Assay Kit (ab65342)

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