abcam

Product datasheet

Gluconokinase Activity Assay Kit (Colorimetric) ab211092

3 Images

Overview

Product name	Gluconokinase Activity Assay Kit (Colorimetric)
Detection method	Colorimetric
Sample type	Cell Lysate, Tissue Lysate
Assay type	Enzyme activity (quantitative)
Sensitivity	< 100 µU
Species reactivity	**Reacts with:** Mammals, Other species
Product overview	Gluconokinase Activity Assay Kit (Colorimetric) (ab211092) provides a simple, sensitive and convenient method for detecting gluconokinase activity in a variety of samples such as cell and tissue lysates, and even in prokaryotes such as *E. coli*. In this assay, Gluconokinase converts Gluconate into 6-Phosphate-D-Gluconate in an ATP dependent manner. 6-Phosphate-D-Gluconate and ADP in turn undergo a series of reactions to form an intermediate, which reacts with the probe to form a colored product with strong absorbance (OD 450 nm). The detection limit of this assay < 0.1 mU.
Notes	This product is manufactured by BioVision, an Abcam company and was previously called K319 Gluconokinase (GntK) Activity Assay Kit (Colorimetric). K319-100 is the same size as the 100 test size of ab211092. Gluconokinase (GntK, ATP:D-gluconate 6-phosphotransferase, Gluconate Kinase; EC:2.7.1.12) is a key enzyme for degradation of gluconate. In *E. coli* and yeast, Gluconokinase phosphorylates gluconate into 6-Phosphate-D-Gluconate in an ATP dependent manner. Via the Hexose Monophosphate Shunt (HMS) pathway, 6- Phosphate-D-Gluconate generates ribose-5-phosphate, which is critical for nucleotides and nucleic acid synthesis. Despite the widespread use of D-gluconate as acidity regulator in food and medicine, little is known of the mechanism of gluconate metabolism in humans.
Platform	Microplate reader

Properties

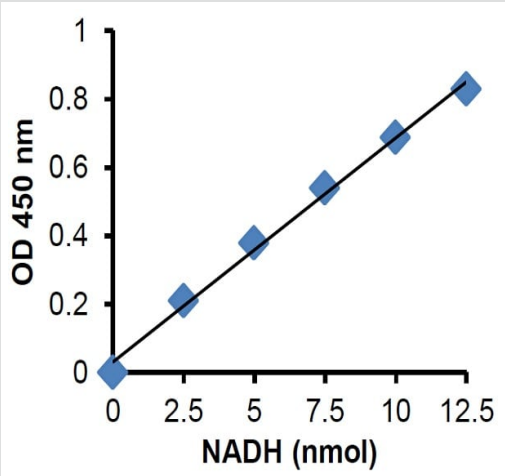
Storage instructions	Store at -20°C. Please refer to protocols.

Components	100 tests
GntK Assay Buffer	1 x 25ml
ATP (40 µmole)	1 vial
GntK Converting Enzyme (10 U)	1 vial
GntK Developer (10 U)	1 vial
GntK Positive Control (200 mU)	1 vial
GntK Probe (30 mg)	1 vial
GntK Substrate (50 µmole)	1 vial
NADH Standard (0.5 µmole)	1 vial

Pathway Carbohydrate acid metabolism; D-gluconate degradation.

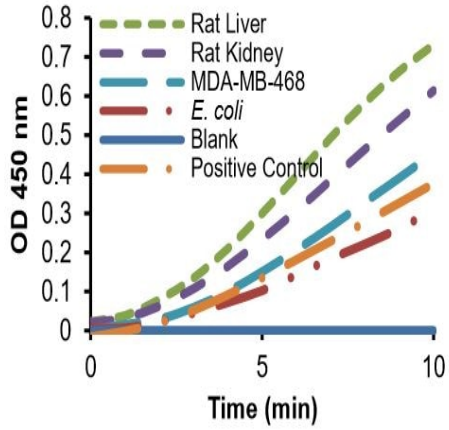
Sequence similarities Belongs to the gluconokinase gntK/gntV family.

Images



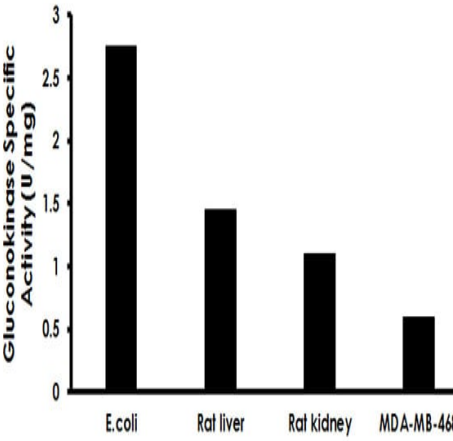
Gluconokinase Activity Assay Kit (Colorimetric) (ab211092)

Typical NADH standard calibration curve.



Gluconokinase Activity Assay Kit (Colorimetric) (ab211092)

Kinetic curves showing Gluconokinase activity detection in positive control (1 µL; included in kit), lysates from rat liver and kidkey (1 µg, respectively), lysates from MDA-MB-468 cells (1 µg) and *E. coli* (0.1 µg).



Gluconokinase Activity Assay Kit (Colorimetric) (ab211092)

Gluconokinase specific activity in lysates from rat liver and kidkey (1 µg, respectively), lysates from MDA-MB-468 cells (1 µg) and *E. coli* (0.1 µg).

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