

Product datasheet

Glyceraldehyde 3 Phosphate Dehydrogenase Activity Assay Kit (Colorimetric) ab204732

★★★★★ [1 Abreviews](#) [33 References](#) [3 Images](#)

Overview

Product name	Glyceraldehyde 3 Phosphate Dehydrogenase Activity Assay Kit (Colorimetric)
Detection method	Colorimetric
Sample type	Tissue, Adherent cells, Suspension cells
Assay type	Enzyme activity
Assay time	0h 20m
Species reactivity	Reacts with: Mammals, Other species
Product overview	<p>Glyceraldehyde 3 Phosphate Dehydrogenase Activity Assay Kit (Colorimetric) (ab204732) provides a simple and sensitive method for monitoring GAPDH activity in various samples. In this assay, GAPDH catalyzes conversion of GAP into BPG and an intermediate, which reacts with a developer to form a colored product that absorbs maximally at 450 nm. Our high-throughput adaptable assay can detect GAPDH activity as low as 100 μU/mL in a variety of samples.</p> <p>GAPDH assay protocol summary:</p> <ul style="list-style-type: none">- add samples and standards to wells- add reaction mix- analyze with microplate reader for 10 min every 2-3 min
Notes	<p>This product is manufactured by BioVision, an Abcam company and was previously called K680 GAPDH Activity Assay Kit. K680-100 is the same size as the 100 test size of ab204732.</p> <p>GAPDH (Glyceraldehyde-3-Phosphate Dehydrogenase; EC 1.2.1.12) catalyzes the conversion of Glyceraldehyde-3-Phosphate (GAP) to 1, 3-Bisphosphate Glycerate (BPG) and plays a key role in glycolysis. The enzyme is involved in cellular processes such as apoptosis, membrane trafficking, iron metabolism and nuclear translocation. GAPDH (housekeeping gene) expression is stable and constitutive. Deregulation of GAPDH activity is associated with abnormal cell proliferation and carcinogenesis. Accurate quantitation of GAPDH activity is important for diagnosing diseases and studying normal cellular physiology.</p>
Platform	Microplate reader

Properties

Storage instructions

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

Components	100 tests
Assay Buffer IV	1 x 25ml
Developer Solution III	1 vial
GAPDH Positive Control	1 vial
Glyceraldehyde-3-Phosphate	1 x 200µl
NADH Standard I	1 vial

Function

Has both glyceraldehyde-3-phosphate dehydrogenase and nitrosylase activities, thereby playing a role in glycolysis and nuclear functions, respectively. Participates in nuclear events including transcription, RNA transport, DNA replication and apoptosis. Nuclear functions are probably due to the nitrosylase activity that mediates cysteine S-nitrosylation of nuclear target proteins such as SIRT1, HDAC2 and PRKDC (By similarity). Glyceraldehyde-3-phosphate dehydrogenase is a key enzyme in glycolysis that catalyzes the first step of the pathway by converting D-glyceraldehyde 3-phosphate (G3P) into 3-phospho-D-glyceroyl phosphate.

Pathway

Carbohydrate degradation; glycolysis; pyruvate from D-glyceraldehyde 3-phosphate: step 1/5.

Sequence similarities

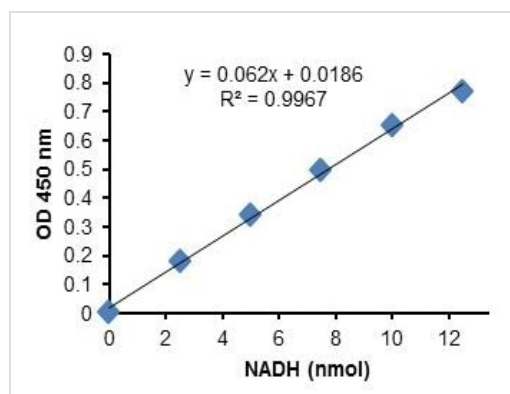
Belongs to the glyceraldehyde-3-phosphate dehydrogenase family.

Post-translational modifications

S-nitrosylation of Cys-152 leads to interaction with SIAH1, followed by translocation to the nucleus.
ISGylated.

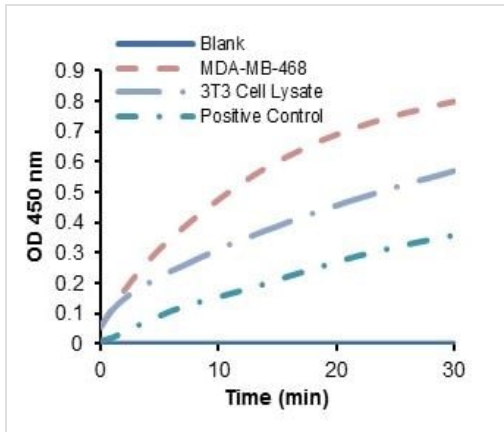
Cellular localization

Cytoplasm > cytosol. Nucleus. Cytoplasm > perinuclear region. Membrane. Translocates to the nucleus following S-nitrosylation and interaction with SIAH1, which contains a nuclear localization signal (By similarity). Postnuclear and Perinuclear regions.

Images

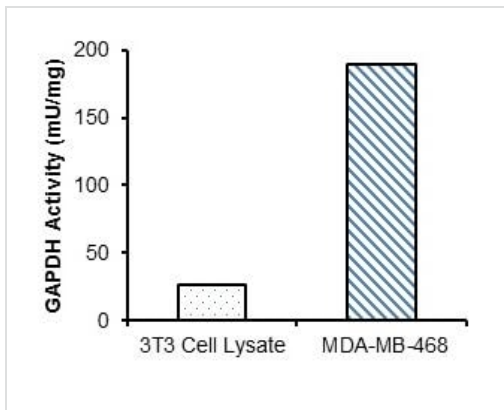
Typical NADH Standard Curve.

Glyceraldehyde 3 Phosphate Dehydrogenase
Activity Assay Kit (Colorimetric) (ab204732)



GAPDH activity in the Positive Control, 3T3 cells lysate and MDA-MB-468 cells lysate.

Glyceraldehyde 3 Phosphate Dehydrogenase Activity Assay Kit (Colorimetric) (ab204732)



GAPDH specific activity calculated from 3T3 cell lysate (11.1 μ g protein), and MDA-MB-468 cell lysate (2.76 μ g protein).

Glyceraldehyde 3 Phosphate Dehydrogenase Activity Assay Kit (Colorimetric) (ab204732)

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

Our Abpromise to you: Quality guaranteed and expert technical support

- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours
- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit <https://www.abcam.com/abpromise> or contact our technical team.

Terms and conditions

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors