

2-Phosphoglycerate Assay Kit

2-Phosphoglycerate Assay Kit

CATALOG #
AAA44698

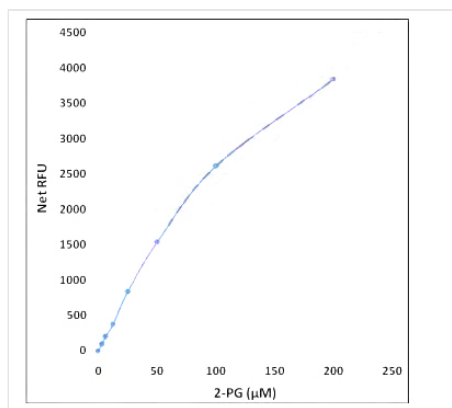
PRODUCT SYNONYMS

2-Phosphoglycerate; 2-Phosphoglycerate Assay Kit; 2-Phosphoglycerate assay kit

PRODUCT SPECIFICATIONS

Detection Method	Fluorometric
------------------	--------------

IMAGES



Standard Curve (Sample)

ADDITIONAL INFORMATION

Related Product Information for 2-Phosphoglycerate assay kit

Background: 2-Phosphoglycerate (2-PG) is a glyceric acid which serves as an intermediate in the metabolic process known as glycolysis. The enzyme phosphoglycerate mutase converts 3-phosphoglycerate to 2-PG, while the enzyme enolase catalyzes 2-PG into phosphoenolpyruvate (PEP), the second to the last step in the conversion of glucose to pyruvate. In bacteria, 2-PG molecules covalently attach to enolase which causes the enzyme to be inactive. Overexpression of phosphoglycerate mutase is linked with tumor growth, survival, and invasion in many types of human cancers. The 2-Phosphoglycerate Assay Kit is a simple fluorometric assay that measures the amount of 2-PG present in biological samples in a 96-well microtiter plate format. Each kit provides sufficient reagents to perform up to 100 assays*, including blanks, 2-PG standards, and unknown samples. Sample 2-PG concentrations are determined by comparison with a known 2-PG standard. The kit has a detection sensitivity limit of 3.1 uM 2-PG.

Principle of the Assay: The 2-Phosphoglycerate Assay Kit measures total 2-PG within biological samples. 2-PG is converted by Enolase to phosphoenolpyruvate (PEP). PEP in the presence of ADP is converted by Pyruvate Kinase to pyruvate + adenosine triphosphate (ATP). Pyruvate is converted by pyruvate oxidase in the presence of phosphate and oxygen into acetyl phosphate, carbon dioxide, and hydrogen peroxide. The resulting hydrogen peroxide is then detected with a highly specific fluorometric probe. Horseradish peroxidase catalyzes the reaction between the probe and hydrogen peroxide, which bind in a 1:1 ratio. Samples are compared to a known concentration of 2-PG standard within the 96-well microtiter plate format. Samples and standards are incubated for 60 minutes and then read with a standard 96-well fluorometric plate reader (Figure 1).

Product Categories/Family for 2-Phosphoglycerate assay kit

Metabolism Research; Carbohydrate Metabolism; 2-Phosphoglycerate Assay Kit

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

AAA Biotech | Tel: +1 (619) 604-9440 | Fax: +1 (619) 604-9441 | contact@aaabiotech.com
Online datasheet: <https://stage.aaabiotech.com/assay-kits/2-phosphoglycerate/44698>