

Phosphoenolpyruvate Assay Kit

Phosphoenolpyruvate Assay Kit

CATALOG #
AAA44691

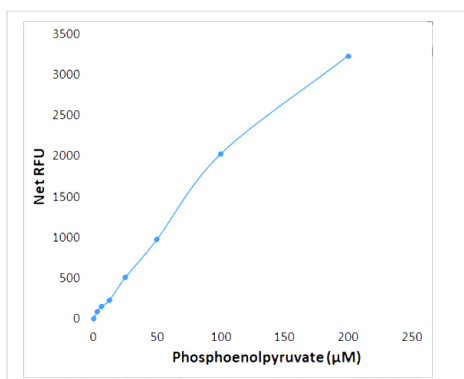
PRODUCT SYNONYMS

Phosphoenolpyruvate; Phosphoenolpyruvate Assay Kit; Phosphoenolpyruvate assay kit

PRODUCT SPECIFICATIONS

Detection Method	Fluorometric
Preparation and Storage	Upon receipt, store Pyruvate Kinase and Pyruvate Oxidase at -80°C. Store the 10X Assay Buffer and the MgCl ₂ at room temperature. Store the rest of the components at -20°C. The Fluorometric Probe is light sensitive and must be stored accordingly. Avoid multiple freeze/thaw cycles.

IMAGES



Standard Curve (Sample)

ADDITIONAL INFORMATION

Related Product Information for Phosphoenolpyruvate assay kit	Background: Phosphoenolpyruvate (PEP) is an important biochemical intermediate. The phosphate bond of PEP has the highest energy found in living organisms, and the bond plays an important role in metabolic pathways such as glycolysis, where pyruvate kinase generates ATP to form pyruvate. PEP also plays a role in gluconeogenesis, where it is formed from the decarboxylation of oxaloacetate catalyzed by phosphoenolpyruvate carboxykinase. In plants, PEP is used to make various aromatic compounds, and is involved in the process of converting inorganic carbon to organic carbon (carbon fixation). In bacteria, PEP is the source of energy for the phosphotransferase system. The Phosphoenolpyruvate Assay Kit is a simple fluorometric assay that measures the amount of phosphoenolpyruvate present in biological samples in a 96-well microtiter plate format. Each kit provides sufficient reagents to perform up to 100 assays*, including blanks, PEP standards, and unknown samples. Sample PEP concentrations are determined by comparison with a known PEP standard. The kit has a detection sensitivity limit of 3.1 uM PEP. Principle of the Assay: The Phosphoenolpyruvate Assay Kit measures total PEP within biological samples. 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 PEP standard within the 96-well microtiter plate format. Samples and standards are incubated for 30 minutes and then read with a standard 96-well fluorometric plate reader (Figure 1).
Product Categories/Family for Phosphoenolpyruvate assay kit	Metabolism Research; Carbohydrate Metabolism; Phosphoenolpyruvate 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/phosphoenolpyruvate/44691>