

Pyruvate Assay Kit | AM587_10001230 assay kit

Pyruvate Assay Kit

CATALOG #
AAA44644

PRODUCT SYNONYMS

Pyruvate; Pyruvate Assay Kit; AM587_10001230 assay kit

PRODUCT SPECIFICATIONS

Sequence Length	597
Preparation and Storage	Upon receipt, store the Pyruvate Standard and 10X Assay Buffer at 4 degree C. Store all other components at -20 degree C. The Fluorometric Probe is light sensitive and must be stored accordingly. Avoid multiple freeze/thaw cycles.

IMAGES

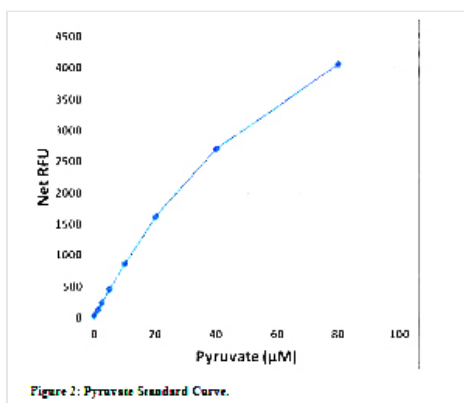


Figure 2: Pyruvate Standard Curve.

Standard Curve (Sample)

ADDITIONAL INFORMATION

Related Product Information for AM587_10001230 assay kit

Principle of the Assay: Pyruvate Assay Kit measures total pyruvate within biological samples. Pyruvate is oxidized 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 pyruvate 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).

Background/Introduction: Pyruvate, the conjugate base of pyruvic acid, is an alpha-keto acid that serves as a key intermediate in several metabolic pathways. Pyruvate can be synthesized from glucose through the glycolytic pathway and converted back to carbohydrates through gluconeogenesis. Pyruvate can be converted to fatty acids through a reaction involving acetyl-CoA and can also be used in the synthesis of the amino acid alanine. Pyruvate can be converted into ethanol or lactic acid through the process of fermentation. Finally, pyruvate is a key component in providing energy to cells through the citric acid cycle under oxygen rich conditions (aerobic respiration), and can also lead to production of lactate in anaerobic environments (fermentation). Pyruvate Assay Kit is a simple fluorometric assay that measures the amount of total pyruvate present in biological samples in a 96-well microtiter plate format. Each kit provides sufficient reagents to perform up to 100 assays*, including blanks, pyruvate standards, and unknown samples. Sample pyruvate concentrations are determined by comparison with a known pyruvate standard. The kit has a detection sensitivity limit of 1 uM pyruvate.

Product Categories/Family for
AM587_10001230 assay kit

Metabolism Research; Cellular Metabolism

NCBI AND UNIPROT INFORMATION

NCBI GI #	970639426
Molecular Weight	65,102 Da
NCBI Official Full Name	Pyruvate
UniProt Protein Name	Pyruvate
UniProt Gene Name	AM587_10001230

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.

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Online datasheet: <https://stage.aaabiotech.com/assay-kits/pyruvate/44644>