

Adenosine Monophosphate Assay Kit

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CATALOG #
AAA44690

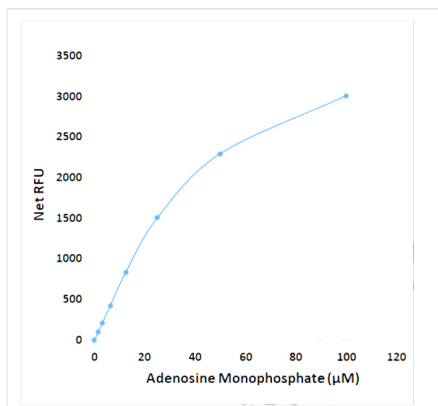
PRODUCT SYNONYMS

Adenosine Monophosphate; Adenosine Monophosphate Assay Kit; Adenosine Monophosphate assay kit

PRODUCT SPECIFICATIONS

Detection Method	Fluorometric
Preparation and Storage	Upon receipt, store PPK at -80°C and 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 Adenosine Monophosphate assay kit

Background: Adenosine monophosphate (AMP) is a nucleotide made up of a phosphate group, the sugar ribose, and the nucleobase adenine. AMP is an important part of various metabolic reactions since AMP is often converted to adenosine diphosphate (ADP) or adenosine triphosphate (ATP). AMP is a constituent of RNA strand synthesis. AMP regulates AMP-activated protein kinase (AMPK), an enzyme that controls cell migration, calcium signaling, and the secretion of cytokines, and t-cell priming capacity in immune cells such as dendritic cells. The Adenosine Monophosphate Assay Kit is a simple fluorometric assay that measures the amount of adenosine monophosphate present in biological samples in a 96-well microtiter plate format. Each kit provides sufficient reagents to perform up to 100 assays*, including blanks, adenosine monophosphate standards, and unknown samples. Sample adenosine monophosphate concentrations are determined by comparison with a known adenosine monophosphate standard. The kit has a detection sensitivity limit of 1.6 μM adenosine monophosphate.

Principle of the Assay: The Adenosine Monophosphate Assay Kit measures total adenosine monophosphate within biological samples. Adenosine monophosphate (with pyrophosphate and phosphoenolpyruvate) is converted by PPK to pyruvate + adenosine triphosphate (ATP) and phosphate. 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 adenosine monophosphate 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).

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/adenosine-monophosphate/44690>