

ADP assay kit

ADP Assay Kit

CATALOG #
AAA44695

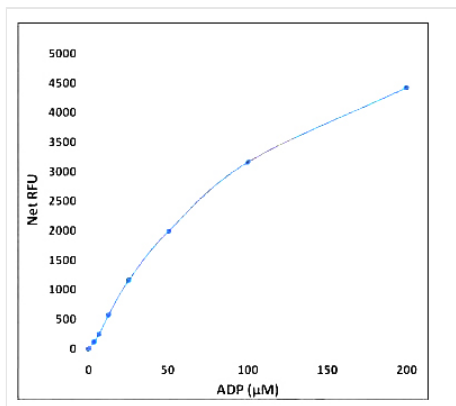
PRODUCT SYNONYMS

ADP; ADP Assay Kit; ADP assay kit

PRODUCT SPECIFICATIONS

Detection Method	Fluorometric
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IMAGES



Standard Curve (Sample)

ADDITIONAL INFORMATION

Related Product Information for ADP assay kit

Background: Adenosine diphosphate (ADP) is an organic molecule that plays a role in energy flow for various cell processes such as enzymatic reactions leading to nerve impulses, muscle contraction, and synthesis of chemicals. ADP is found in all life forms and consists of three components: a nitrogenous base (adenine), the sugar ribose, and the diphosphate group. It is consumed in serial enzymatic reactions that produce ATP such as glycolysis or oxidative phosphorylation. In plants, sunlight is converted from ADP to ATP through a process known as photosynthesis. When used up metabolically, ATP is converted either to adenosine diphosphate (ADP) or to adenosine monophosphate (AMP). The ADP Assay Kit is a simple fluorometric assay that measures the amount of total ADP present in biological samples in a 96-well microtiter plate format. Each kit provides sufficient reagents to perform up to 100 assays*, including blanks, ADP standards, and unknown samples. Sample ADP concentrations are determined by comparison with a known ADP standard. The kit has a detection sensitivity limit of 3.1 μM ADP.

Principle of the Assay: The ADP Assay Kit measures total ADP within biological samples. ADP and phosphoenolpyruvate (PEP) are converted by pyruvate kinase to ATP and pyruvate. 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 ATP 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 ADP assay kit

Metabolism Research; Carbohydrate Metabolism; ADP 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.

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Online datasheet: <https://www.aaabiotech.com/assay-kits/adp/44695>