CREATIVE BIOMART®
Assay Kit

Adenylate Kinase Activity Assay Kit

Product Information

Cat.No. Kit-2147

Product Overview

AK Activity Assay kit can kinetically measure Adenylate Kinase activity by detecting adenosine triphosphate (ATP) generated from adenosine diphosphate (ADP) as a substrate. ATP is detected via a multi-step reaction, resulting in the generation of an intermediate that reacts with the Adenylate Kinase Probe forming an end product that can be measured colorimetrically (OD 570 nm) or fluorometrically (Ex/Em = 535/587 nm).

Size

100 assays

Description

Adenylate Kinase (AK) (EC 2.7.4.3) is an abundant enzyme involved in energy metabolism and homeostasis of cellular adenine nucleotide ratios in different intracellular compartments. The enzyme is found in the nucleus, cytosol, or mitochondria (intermembrane space or matrix) of various kinds of tissues. Adenylate kinase acts on two molecules of ADP to generate ATP and AMP. Nine isoforms of adenylate kinase have been identified. Erythrocyte adenylate kinase deficiency is associated with hemolytic anemia. Adenylate kinase also plays an important role in post-ischemic recovery and in apoptosis.

Applications

Detection of Adenylate Kinase activity

Storage

Store kit at -20°C, protected from light. Briefly centrifuge small vials prior to opening. Read entire protocol before performing the assay.AK Assay Buffer: Bring to room temperature before use. Store at -20°C or 4°C.AK Convertor and AK Developer: Reconstitute each with 220 µl AK Assay Buffer and mix gently by pipetting. Briefly centrifuge to collect the contents at the bottom of the tube. Aliquot and store at -20°C. Avoid repeated freeze/thaw.Positive Control (AK Enzyme): Reconstitute with 55 µl deionized water. Store at -20°C. Avoid repeated freeze/thaw. Use within two months.ATP

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Standard: Dissolve in 100 µl of distilled water to generate a 10 mM stock solution. Keep on ice while in use. Store at -20°C. Avoid repeated freeze/thaw.

Kit Components

AK Assay Buffer: 25 mlAK Probe: 200 µlADP Substrate: 200 µlAK Convertor: 1 vialAK Developer: 1 vialPositive Control (AK Enzyme): 1 vialATP Standard (1 µmol): 1 vial

Detection method Absorbance (OD 570 nm) or Fluorescence (Ex/Em = 535/587 nm)

Compatible Sample Types

• Purified Adenylate Kinase• Cell and tissue lysate• Mitochondrial lysate

Features & Benefits

• Simple, rapid & convenient• The kit includes all the reagents required to measure AK activity

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