CREATIVE BIOMART®
Assay Kit

Dihydrofolate Reductase Colorimetric Activity Kit

Product Information

Cat.No. Kit-2097

Product Overview

Dihydrofolate Reductase assay kit is based on the ability of DHFR to catalyze the oxidation of NADPH. The reaction progress is followed by monitoring the decrease in absorbance at 340 nm. Our assay has been optimized to be carried out in a 96- well plate. The assay is simple, sensitive and can detect as low as 4 mU/ml in a variety of samples.

Size

100 assays

Description

Dihydrofolate Reductase (DHFR; 5,6,7,8-tetrahydrofolate NADP oxidoreductase; EC 1.5.1.3), is a ubiquitous enzyme that is present in all eukaryotic and prokaryotic cells. It catalyzes the reduction of dihydrofolate (FH2) to tetrahydrofolate (FH4) using NADPH as a cofactor. FH4 is essential for a number of enzymes that are necessary for the de novo synthesis of purines, thymidylic acid and some amino acids. Inactivation of the DHFR enzymatic activity causes reduction of the intracellular level of FH4, inhibition of RNA and DNA synthesis, and cell death. For this reason, DHFR has been a critically important enzyme as a molecular target in drug discovery.

Applications

Measurement of Dihydrofolate Reductase activity in various tissues/cellsAnalysis of folate metabolism

Storage

Upon receiving the kit, store DHFR substrate at -80°C. Store other components at -20°C. Briefly centrifuge small vials prior to opening. Read entire protocol before performing the assay. Upon opening, use within two months.DHFR Assay Buffer: Warm to room temperature before use. Store at 4°C or -20°C.DHFR Substrate: Aliquot and store at -80°C, protected from light. Avoid repeated freeze/thaw cycles.Dihydrofolate Reductase: Store at -20°C. Avoid repeated freeze/thaw cycles. Keep on ice while in use.NADPH: Reconstitute with 200 μl DHFR Assay Buffer to generate 20 mM

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NADPH Stock Solution. Aliquot and store at –20°C. Keep on ice while in use.

Kit Components

DHFR Assay Buffer: 35 mlDHFR Substrate: 450 µlDihydrofolate Reductase: 10 µlNADPH: 1 vial

Detection method Absorbance (OD=340 nm)

Compatible Sample Types

Tissue homogenates: liver, spleen, etc.Cell culture: adherent or suspension cellsPurified enzyme preparations

Features & Benefits

• Rapid, sensitive and convenient• The kit measures total Activity of DHFR Activity with limit of quantification 4 mU/ml using recombinant DHFR

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