May 17, 2019

Working

Yale - Creatine Kinase Activity

John Stack[1], Gary Cline[1]

[1]Yale University

dx.doi.org/10.17504/protocols.io.y3sfyne

Mouse Metabolic Phenotyping Centers
Tech. support email: **info@mmpc.org**

Lili Liang

ABSTRACT

Summary:

Procedure used to determine the creatine kinase activity in blood , serum, and plasma. Creatine kinase activity is measured by the enzymatically coupled reactions of creatine kinase, hexokinase, and glucose-6-P dehydrogenase. The rate of NADPH formation is monitored by the change in absorbance at 340 nm.

EXTERNAL LINK

https://mmpc.org/shared/document.aspx?id=219&docType=Protocol

MATERIALS

NAME	CATALOG #	VENDOR
CK NADP Imidazole Reagent	R85191	Cliniqa
CK NADP Imidazole Buffer	R85191	Cliniqa
Assayed Control Serum 1	R83082	Prolabs(cliniqa)
Assayed Control Serum 2	R83083	Prolabs(cliniqa)

MATERIALS TEXT

Reagent Preparation:

CK NADP Imidazole Reagent: Add the appropriate volume (26mL) of CK NADP Imidazole Buffer to the powdered reagent. Gently invert reagent bottle to stir contents and allow 15 minutes for contents to mix.

CK NADP Imidazole Buffer: As supplied by vendor.

Assayed Control Serum 1: Add the appropriate amount of water (6.5mL) to the chemical control bottle.
Invert to mix, allowing 15 minutes for the reagent to settle.

Assayed Control Serum 2: Add the appropriate amount of water (6.5mL) to the chemical control bottle.
Invert to mix, allowing 15 minutes for the reagent to settle.

BEFORE STARTING

Analysis by automated system Cobas Mira Plus

1 Calibrate Cobas for the measurement of creatine kinase activity analysis by running two control serum.

2 Sample handling as performed by the Cobas Mira Plus.
a) Pipette 4.5 µL of sample into a cuvette slot.
b) Add 175 µL of CK NADP Imidazole Reagent.
c) Mixture is incubated at 37°C and spun for 10 minutes.
d) Absorbance is measured at 340nm.