CREATIVE BIOMART®
Assay Kit

Mitochondrial Complex V Activity Assay Kit

Product Information

Cat.No. Kit-0250

Product Overview

The Mitochondrial Complex V (ATP Synthase) Activity Assay Kit is used to determine the activity of this enzyme in a sample. ATP Synthase is immunocaptured within the wells. The enzyme functions by hydrolyzing ATP to ADP and phosphate. This production of ADP is ultimately coupled, as shown below, to the oxidation of NADH to NAD+ which is monitored as a decrease in absorbance at 340 nm (See References section for an article that describes the nature of this assay). The ATP hydrolysis activity and therefore the coupled reaction is inhibited by oligomycin (a specific inhibitor of ATP Synthase).

Size

96 rxn

Description

The ATP synthase complex (EC 3.6.3.14), also called Complex V or F1F0 ATPase, is responsible for ATP production in the oxidative phosphorylation process and can work in reverse as a proton pumping ATPase. The enzyme was thought to be localized exclusively in the mitochondria, but it has now also been identified on the plasma membrane of several cell types, including hepatocytes (where it acts as an HDL receptor), on endothelial cells (where it may act as an angiostatin receptor), and on the surface of cancer cells.The mammalian ATP synthase is composed of 17 subunits. Five of the subunits make up the easily detached F1 domain. The remainder subunits are part of two stalk domains and the proton pumping F0 domain. Two of the F0 subunits are encoded on mitochondrial (mt) DNA while all other subunits of the ATP synthase complex are nuclear encoded. Mutations in the mt-encoded subunits are implicated in OXPHOS disease.

Storage

Store Buffer, Detergent, and covered Microplate at 2 to 8°C. Store the Phospholipids and Reagent Mix at -80°C. For multiple experiments, it is recommened to aliquot the Reagent Mix and Phospholipids upon initial thaw and store any aliquots at -80°C.

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Kit Components

10 ml, Buffer,1 ml, Detergent,20 ml, Reagent Mix,6 ml, Phospholipids,1 ea, Microplate,This kit contains sufficient materials for 96 measurements (one 96-well microplate).

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