CREATIVE BIOMART®
Assay Kit

Mitochondrial Complex I Activity Colorimetric Assay Kit

Product Information

Cat

Kit-2297

Cat.No.

Kit-2297

Product Overview

Mitochondrial Complex I or NADH:ubiquinone oxidoreductase (EC 1.6.5.3) is the first and the largest complex of the Electron Transport Chain located in the mitochondrial membrane. It oxidizes NADH to NAD+ and transfers an electron to ubiquinone (also present in the inner mitochondrial membrane) converting it to ubiquinol. During this process, it transports protons across the inner mitochondrial membrane, helping to develop an electrochemical gradient. This process is very important for cellular respiration and adverse effects on Complex I activity can compromise mitochondrial respiration, which further leads to cellular stress. Mitochondrial Complex I assay kit is a fast and reliable method to determine the activity of complex I in isolated mitochondria. It is useful for respiration studies in isolated mitochondria and may be used to study effects of toxicants, drugs and other environmental conditions on mitochondrial complex I activity. This kit uses decylubiquinone, an analog of ubiquinone, as an electron acceptor that gets converted to decylubiquinol through the catalytic activity of Complex I. The Complex I dye that absorbs light at 600 nm in its oxidized form is used as a terminal electron acceptor that accepts electrons from decylubiquinol. Complex I activity is determined colorimetrically by recording the change in absorbance of reduced Complex I dye at 600 nm. Specific Complex I activity is obtained by subtracting the activity in presence of Complex I inhibitor rotenone from total activity. This kit can detect as low as 0.1 mU / well and is linear up to 7 mU / well.

Applications

Measurement of Complex I activity in isolated mitochondria

Storage

-20°C

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Shipping	
Gel Pack	
Size	
100 assays	
Kit Components	
Complex I Assay Buffer; NADH; Decylubiquinone; Complex I Dye; Complex I Inhibitor Rotenone; Clear 96-well half area plate	
Target Species	
Multiple species	
Detection method	Colorimetric (Absorbance 600 nm)
Features & Benefits	
Simple, rapid & convenient assay to measure Mitochondrial Complex I; Includes Inhibitor (Rotenone)	

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