CREATIVE BIOMART®
Assay Kit

Alpha-Ketoglutarate Dehydrogenase Activity Colorimetric Assay Kit

Product Information

Cat

Kit-2206

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Product Overview

a-Ketoglutarate Dehydrogenase (a-KGDH) (EC 1.2.4.2) is a key enzyme in the citric acid cycle. It forms an enzyme complex with dihydrolipoamide succinyl transferase (E2) and dihydrolipoamide dehydrogenase (E3).a-KGDH converts a-ketoglutarate into succinyl-CoA in the presence of NAD and CoA. It is highly regulated by intracellular ATP/ADP and NADH/NAD ratios and calcium. In humans, decreased KGDH activity can lead to neurodegenerative diseases such as Alzheimer's disease. Recent studies show that a-KGDH is a target of oxidative stress; reactive oxygen species (ROS) inhibit KGDH activity which diminishes its critical function and can cause a bioenergetic deficit.a-KGDH assay kit provides a quick and easy way for monitoring a-KGDH activity in various samples. In the assay, a-KGDH converts a-ketoglutarate into an intermediate which reduces the probe to a colored product with strong absorbance at 450 nm. The assay is simple, sensitive and can detect a-ketoglutarate dehydrogenase activity lower than 0.1 mU in a variety of samples.

Applications

Measurement of a-Ketoglutarate dehydrogenase activity in various tissues/cells.
Analysis of cell signaling pathways such as citrate acid cycle, lysine degradation or tryptophan metabolism in various cell types.

Storage

-20°C

Shipping

Gel Pack

Size

100 assays

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Kit Components

KGDH Assay Buffer; KGDH Substrate (Lyophilized); KGDH Developer (Lyophilized); NADH Standard (Lyophilized); KGDH Positive Control

Detection method Absorbance (450 nm)

Features & Benefits

Simple, rapid & convenient; can measure a-ketoglutarate dehydrogenase activity lower than 0.1 mU in a variety of samples

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