Alpha-Ketoglutarate Dehydrogenase Activity Colorimetric Assay Kit

Cat. No. Kit-2206 **Lot. No.** (See product label)

SPECIFICATION

Product Overview	α-Ketoglutarate Dehydrogenase (α-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).α-KGDH converts α-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 α-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.α-KGDH assay kit provides a quick and easy way for monitoring α-KGDH activity in various samples. In the assay, α-KGDH converts α-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 α-ketoglutarate dehydrogenase activity lower than 0.1 mU in a variety of samples.
Applications	Measurement of α-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 α-ketoglutarate dehydrogenase activity lower than 0.1 mU in a variety of samples

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