



# D-2-Hydroxyglutarate Dehydrogenase Fluorometric Assay Kit

## Product Information

### Cat.No.

Kit-2108

### Product Overview

D-2-Hydroxyglutarate Dehydrogenase Assay kit provides a quick and easy method for monitoring D2HGDH activity in a wide variety of samples. In this assay, D2HGDH converts D-2-Hydroxyglutarate into 2-Oxoglutarate and NADH, which further reduces PicoProbe to generate an intense fluorescent product (Ex/Em = 535/587 nm). This kit is simple, sensitive and high-throughput adaptable and can detect as low as 4  $\mu\text{U}/\mu\text{l}$  of D2HGDH activity.

### Size

100 assays

### Description

D-2-Hydroxyglutarate Dehydrogenase (D2HGDH: EC 1.1.99.2) is a mitochondrial enzyme which catalyzes the conversion of D-2- Hydroxyglutarate into 2-Oxoglutarate. In humans, mutation of D2HGDH gene could reduce D2HGDH activity which will cause the D-2- Hydroxyglutarate accumulation in body fluids. Increased D-2-Hydroxyglutarate level in body fluids leads to D-2-Hydroxyglutaric Aciduria, a neurometabolic disorder characterized as developmental delay, epilepsy, hypotonia, and dysmorphic features.

### Applications

Measurement of D2HGDH activity in purified enzyme preparations, tissues and cells

### Target Species

Mammalian

### Storage

Store kit at  $-20^{\circ}\text{C}$ , protected from light. Briefly centrifuge small vials prior to opening. Read entire protocol before performing the assay. D2HGDH Assay Buffer: Bring to room temperature before use. Store at  $4^{\circ}\text{C}$  or  $-20^{\circ}\text{C}$ . PicoProbe: Before use, thaw at room temperature. Store at  $-20^{\circ}\text{C}$ . Use within



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two months. D2HGDH Substrate: Store at -20°C, stable for 6 months. D2HGDH Developer: Reconstitute with 220 µl Assay Buffer. Pipette up and down to dissolve completely. Store at -20°C. Use within two months. D2HGDH Positive Control: Reconstitute with 100 µl Assay Buffer and mix thoroughly. Aliquot and store at -70°C. Avoid freeze/thaw. Use within two months. Keep on ice while in use. NADH Standard: Reconstitute with 200 µl dH<sub>2</sub>O to generate 1 mM (1 nmol/µl) NADH Standard solution. Aliquot and store at -20°C. Use within two months. Keep on ice while in use.

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### Kit Components

D2HGDH Assay Buffer: 20 ml PicoProbe (in DMSO): 0.2 ml D2HGDH Substrate: 0.4 ml D2HGDH Developer: 1 Vial D2HGDH Positive Control: 1 Vial NADH Standard: 1 Vial

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**Detection method** Fluorescence (Ex/Em=535/587 nm)

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### Compatible Sample Types

Animal tissues: liver, kidney, heart, brain, etc. Cell culture: adherent or suspension cells

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### Features & Benefits

- Rapid, sensitive and convenient
- The kit measures total Activity of D-2-Hydroxyglutarate Dehydrogenase Activity with limit of quantification 4 µU/µl using recombinant D2HGDH