

## D-2-Hydroxyglutarate Colorimetric Assay Kit

### Product Information

**Cat.No.**

Kit-2120

**Product Overview**

s D-2-Hydroxyglutarate Assay Kit provides a convenient method to detect D2HG in biological samples. In this assay, D-2-Hydroxyglutarate is oxidized to  $\alpha$ -Ketoglutarate in the presence of D2HG Enzyme and Substrate Mix. The intermediate reduces the probe to a colored product with strong absorbance at 450 nm. This absorbance is proportional to the amount of D2HG present in the samples. This assay kit is fast, sensitive, easy to use and high-through adaptable, It can measure D-2-Hydroxyglutarate levels less than 10  $\mu$ M in various samples.

**Size**

100 assays

**Description**

In eukaryotic cells, Isocitrate Dehydrogenase (IDH1, IDH2 and IDH3) catalyzes the interconversion of Isocitrate and  $\alpha$ -Ketoglutarate. In human cancers, an IDH mutation causes a gain-of-function, which reduces its affinity for isocitrate and facilitates the conversion of  $\alpha$ -ketoglutarate to D-2-Hydroxyglutarate in the presence of NADP. D-2-Hydroxyglutarate (D2HG) is present at low level in normal cells and tissues, but is significantly elevated in metabolic diseases and various cancers. Therefore, detection of elevated D2HG is important for early diagnosis, prognosis and the development of therapeutic strategies against these maladies.

**Applications**

Measurement of D2HG level in various cell/tissues/biological fluids.

**Target Species**

Mammalian

**Storage**

Store kit at -20°C, protected from light. Bring the D2HG Assay Buffer to room temperature before

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use. Briefly centrifuge all small vials prior to opening. Read the entire protocol before the assay.

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### Kit Components

D2HG Assay Buffer: 20 ml D2HG Enzyme: 1 vial D2HG Substrate Mix: 1 vial D2HG Standard: 1 vial

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**Detection method** Absorbance (OD = 450 nm)

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### Compatible Sample Types

• Adherent or suspension Cells: e.g. 3T3, HepG2, Jurkat cells. • Tissues: e.g. Rat Liver, Rat Kidney, etc. • Biological Samples: Urine.

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### Features & Benefits

• Simple, fast, HTP adaptable and convenient assay • Can measure D2HG levels as low as 10  $\mu$ M in various samples.

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