

# Active D-2-Hydroxyglutarate Dehydrogenase (D2HGDH), Recombinant

**CATALOG NO:** P1001-50 50 µg  
P1001-250 250 µg

**ALTERNATE NAMES:** D-isomer specific 2-hydroxyacid dehydrogenase  
NAD-binding protein

**SOURCE:** *E.coli*

**SEQUENCE:** His-tagged Full-length D2HGDH of *Acidaminococcus fermentans*

**PURITY:** > 99% by SDS - PAGE

**MOL. WEIGHT:** 39 kDa

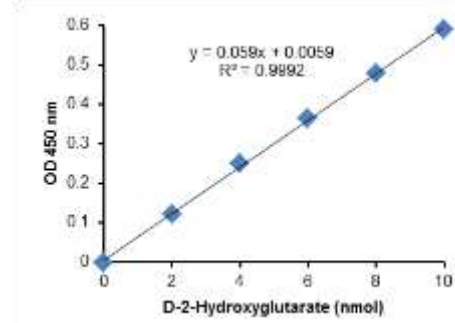
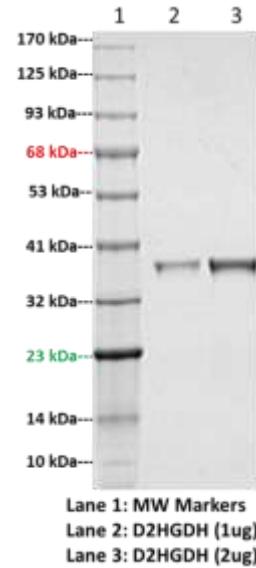
**FORM:** Lyophilized in 50mM Tris, pH 8 without any additives

**RECONSTITUTION:** Centrifuge the vial prior to opening. Reconstitute in water to a concentration of 0.1-5 mg/ml. The solution can be diluted into other aqueous buffers and stored at -20°C for future use.

**STORAGE CONDITIONS:** Can be stored at 4°C up to 2 weeks. For long term storage, aliquot and store at -20°C. Avoid repeated freezing and thawing cycles.

**DESCRIPTION:** D-2-hydroxyglutarate (D2HG) level is significantly increased in metabolic diseases and various cancers such as acute myeloid leukemia. Studies suggest that the detection of D2HG serves as a biomarker assay related to IDH (isocitrate dehydrogenase) mutations. D2HGDH is a special NAD-dependent enzyme which reacts with D2HG specifically and converts D2HG to α-ketoglutarate. D2HGDH is a key enzyme to distinguish between two metabolites, D2HG and L-2-hydroxyglutarate (L2HG), during biomarker assays.

**BIOLOGICAL ACTIVITY:** The specific activity of D2HGDH is ≥ 90,000 mU/mg. (Specific activity is tested by the D-2-Hydroxyglutarate Colorimetric Assay Kit (Cat. No. 213-100) Unit Definition: One unit is the amount of enzyme that reduces 1.0 µmole of NAD<sup>+</sup> to NADH per min. at pH 8 at 37°C.)



**Figure: (Left) SDS-PAGE (4-20%) of Active D2HGDH:** Recombinant D2HGDH Protein loaded under reducing conditions and stained with Coomassie Blue. The protein has a predicted MW of 39 kDa. **(Right) Active D2HGDH reacts with D2HG specifically.** 1 ng D2HGDH reacts with 2~10 nmole D2HG. Activity can be calculated from the increase of OD 450 nm after 1 hour incubation at 37°C using the D-2-Hydroxyglutarate Colorimetric Assay Kit (Cat. No. 213-100).

**RELATED PRODUCTS:**

- D-2-Hydroxyglutarate (D2HG) Colorimetric Assay Kit (Cat. No. K213-100)
- Isocitrate Dehydrogenase Activity Colorimetric Assay kit (Cat. No. K756-100)
- Human recombinant IDH1 (Cat. No. 6379-100)

**FOR RESEARCH USE ONLY! Not to be used in humans.**

