

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:	<i>E.coli</i>	
SEQUENCE:	His-tagged Full-length D2HGDH of <i>Acidaminococcus fermentans</i>	
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⁺ to NADH per min. at pH 8 at 37°C.)

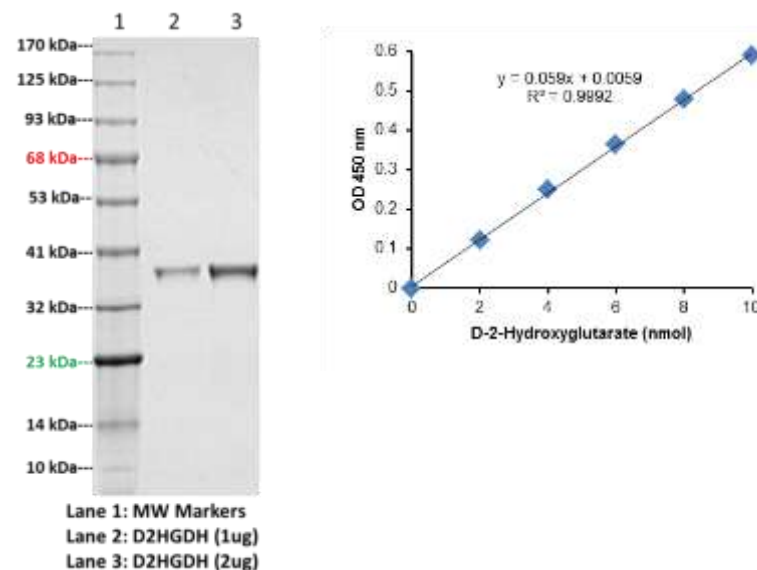


Figure: (Left) SDS-PAGE (4-20%) of Active D2HGDH: Recombinant D2HGDH Protein loaded under reducing conditions and stained with Coomassie Blue. The protein has a predicted MW of 39 kDa. **(Right) Active D2HGDH reacts with D2HG specifically.** 1 ng D2HGDH reacts with 2~10 nmole D2HG. Activity can be calculated 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.