Isocitrate Dehydrogenase 1 (R132H) mutant, Human Recombinant

CATALOG NO:

P1070-10	10 µg
P1070-100	100 µg
P1070-250	250 µg

ALTERNATE NAMES: Isocitrate dehydrogenase [NADP] cytoplasmic mutant, R132H, IDH 1 R132H

SOURCE: *E. coli*

SEQUENCE Full-length human IDH1 (452 amino acids) with N-terminal HAT-tag. Arginine 132 is mutated to histidine

PURITY: ≥90% by SDS-PAGE

MOL. WEIGHT: ~50.9 kDa (SDS-PAGE)

FORM: Lyophilized

RECONSTITUTION: Centrifuge the vial prior to opening. Reconstitute the lyophilized protein in deionized water to the final concentration 0.5 mg/ml and incubate the reconstituted protein at 25 °C for 15 minutes.

STORAGE CONDITIONS: Lyophilized protein can be stored at 4°C. Once reconstituted aliquot and store at -20°C. Avoid repeated freeze/thaw cycles.

DESCRIPTION: Mutations of the cytosolic IDH 1 are a common feature in primary human brain cancers. Arginine 132 (R132) of IDH is highly conserved among different isoforms of IDH and is most commonly mutated to Histidine. Mutation of IDH1 R132H leads to accumulation of R(-)-2-hydroxyglutarate (2HG), which correlates with an increased risk for malignant brain tumors.

SPECIFIC ACTIVITY: This enzyme has a specific activity ≥ 300 mU/mg based on measuring the oxidation of NADPH to $NADP^+$ at wavelength 340 nm from the following reaction using BioVision's Isocitrate Dehydrogenase Mutant assay Kit **(Cat. No. K985-100)**.

α-ketoglutarate + NADPH + H^+ → 2HG + $NADP^+$

UNIT DEFINITION: One unit is the amount of enzyme that will convert 1.0 µmole of NADPH to $NADP^+$ per minute at pH 7.4 at 25℃.

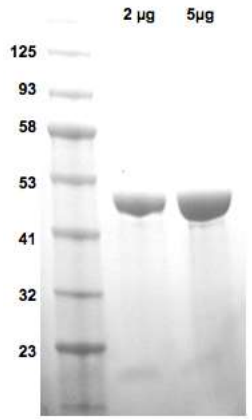

Fig. A. SDS-PAGE (4-20%) of Recombinant IDH 1 R132H: Recombinant Protein loaded under reducing conditions and stained with Coomassie Blue. The protein shows a predicted MW of ~ 50 kDa

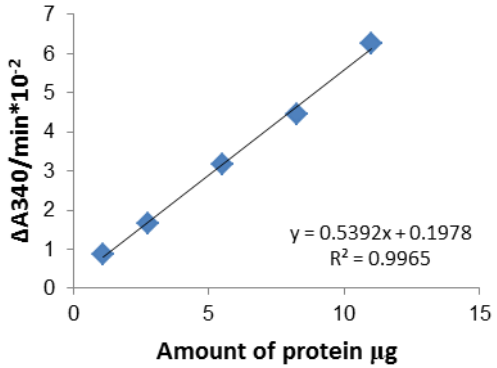

Fig. B. IDH R132H activity assay: Specific activity of IDH1 R132H is ≥ 300 mU/mg. Active enzyme reacts with 5mM of α-ketoglutarate and 800 µM NADPH at pH 7.4 at 25℃. The specific activity is calculated by decrease in absorbance at 340 nm after 15 min incubation at 25℃ using BioVision Isocitrate Dehydrogenase Mutant assay Kit **(Cat. No. K985)**

RELATED PRODUCT:

- Human Recombinant IDH1 **(Cat. No. 6379)**
- Active D-2-Hydroxyglutarate Dehydrogenase **(Cat. No. P1001)**
- D-2-Hydroxyglutarate (D2HG) Assay Kit (Colorimetric) **(Cat. No. K213-100)**
- PicoProbe™ D2HG Dehydrogenase Assay Kit **(Cat. No. K248-100)**

FOR RESEARCH USE ONLY! Not to be used on humans.