#### APH838Hu01 100µg Active Isocitrate Dehydrogenase 2, mitochondrial (IDH2) Organism Species: *Homo sapiens* (Human) *Instruction manual*

#### FOR RESEARCH USE ONLY NOT FOR USE IN CLINICAL DIAGNOSTIC PROCEDURES

13th Edition (Revised in Aug, 2023)

### [PROPERTIES]

Source: Prokaryotic expression. Host: *E. coli* Residues: Ala40~Gln452 Tags: N-terminal His-tag Purity: >90% Endotoxin Level: <1.0EU per 1µg (determined by the LAL method). Buffer Formulation: PBS, pH7.4, containing 0.01% SKL, 5%Trehalose . Original Concentration: 200µg/mL Applications: Cell culture; Activity Assays. (May be suitable for use in other assays to be determined by the end user.) Predicted isoelectric point: 8.3 Predicted Molecular Mass: 50.3kDa Accurate Molecular Mass: 50kDa as determined by SDS-PAGE reducing conditions.

# [ <u>USAGE</u> ]

Reconstitute in 10mM PBS (pH7.4) to a concentration of 0.1-1.0 mg/mL. Do not vortex.

# [ STORAGE AND STABILITY ]

Storage: Avoid repeated freeze/thaw cycles.

Store at 2-8°C for one month.

Aliquot and store at -80°C for 12 months.

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**Stability Test:** The thermal stability is described by the loss rate. The loss rate was determined by accelerated thermal degradation test, that is, incubate the protein at 37°C for 48h, and no obvious degradation and precipitation were observed. The loss rate is less than 5% within the expiration date under appropriate storage condition.

#### [SEQUENCE]

```
A DKRIKVAKPV
VEMDGDEMTR IIWQFIKEKL ILPHVDIQLK YFDLGLPNRD QTDDQVTIDS
ALATQKYSVA VKCATITPDE ARVEEFKLKK MWKSPNGTIR NILGGTVFRE
PIICKNIPRL VPGWTKPITI GRHAHGDQYK ATDFVADRAG TFKMVFTPKD
GSGVKEWEVY NFPAGGVGMG MYNTDESISG FAHSCFQYAI QKKWPLYMST
KNTILKAYDG RFKDIFQEIF DKHYKTDFDK NKIWYEHRLI DDMVAQVLKS
SGGFVWACKN YDGDVQSDIL AQGFGSLGLM TSVLVCPDGK TIEAEAAHGT
VTRHYREHQK GRPTSTNPIA SIFAWTRGLE HRGKLDGNQD LIRFAQMLEK
VCVETVESGA MTKDLAGCIH GLSNVKLNEH FLNTTDFLDT IKSNLDRALG
RQ
```

# [ACTIVITY]

Isocitrate Dehydrogenase 2 (IDH2) catalyzes the oxidative decarboxylation of isocitrate to alpha-ketoglutarate. There are two subclasses in the IDH family, one of them utilizing NADP+ as the electron acceptor and the other using NAD+. The protein encoded by this gene is the NADP+ dependent isocitrate dehydrogenase found in the mitochondrial. The activity of recombinant human IDH2 was measured by the ability to oxidatively decarboxylate isocitrate to 2-oxoglutarate. The reaction was performed in 25 mM Tris, 0.5 mM MnCl2, 5 mM DTT, pH 7.5 (Assay Buffer), initiated by addition 50  $\mu$  L of various concentrations of IDH2 (diluted by Assay Buffer) to 50  $\mu$ L of substrate mixture consisted of 1 mM NADP+ and 2 mM isocitric acid. The final well serves as a negative control with no IDH2, replaced with 50  $\mu$  I assay buffer. Incubated at 25  $^{\circ}$ C for 5min, then read at a wavelength of 340 nm. The specific activity of recombinant human IDH2 is >200

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pmol/min/µg.

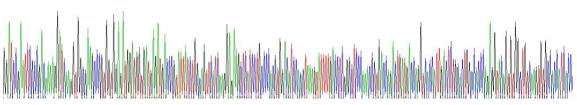
Specific Activity (pmol/min/ug)=

Adjusted Vmax\* (OD/min) x well volume (L) x 1012 pmol/mol

ext. coeff\*\* (M-1cm-1) x path corr.\*\*\* (cm) x amount of enzyme (ug)

\*Adjusted for Substrate Blank \*\*Using the extinction coefficient 6270 M<sup>-1</sup>cm<sup>-1</sup> \*\*\*Using the path correction 0.320 cm

# [IDENTIFICATION]



MONTHINGACTION

MICEIG/CO/G/CIG/CO/CEIC/CO/TIG/CICIGO/CO/CO/G/CEIA//SIGICCO/CO/C/CO/

Figure 1. Gene Sequencing (extract)

1	kDa 70
	44
	33
	26
	22
	18
	14
	10

Figure 2. SDS-PAGE

Sample: Active recombinant IDH2, Human

### [IMPORTANT NOTE]

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The kit is designed for research use only, we will not be responsible for any issue if the kit was used in clinical diagnostic or any other procedures.