



## Active Aldehyde Dehydrogenase 1 Family, Member A1 (ALDH1A1)

Catalog No.: TP09258

50µg

### Sequence Information

**Species:** Human

**Gene ID:**216

**Swiss Prot:**P00352

**Synonyms:**ALDH11; ALDH1; ALDC; PUMB1;

RALDH1; Retinaldehyde

Dehydrogenase 1; Aldehyde

dehydrogenase, cytosolic; Retinal

dehydrogenase 1

**Residues:**Ser2~Ser501

SSSGTPDLPVLLTDLKIQYTKIFINNEWHDSVSGKKFPVFNPAEEEELCQVEEG  
DKEDVDKAVKAARQAFQIGSPWRTMDASERGLLYKLADLIERDRLLLATMESM  
NGGKLYSNAYLNLAGCIKTLRYCAGWADKIQGRTIPIDGNFFTYTRHEPIGVC  
GQIIPWNFPLVMLIWKIGPALSCGNTVVVKPAEQTPLTALHVASLIKEAGFPPG  
VVNIVPGYGPTAGAAISSHMDIDKVAFTGSTEVGGLIKEAAGKSNLKRVTLLELG  
GKSPCIVLADADLDNAVEFAHHGVFYHQGCCIAASRIFVEESIYDEFVRRSVE  
RAKKYILGNPLTPGVTQGPQIDKEQYDKILDIESGKKEGAKLECGGPGWGNKG  
YFVQPTVFSNVTDEMRIAKEEIFGPVQQIMKFSLDDVIKRANNTFYGLSAGVF  
TKDIDKAITISSALQAGTVWVNCYGVVSAQCPCFGGFKMSGNGRELGEYGFHEYT  
EVKTVTVKISQKNS

### Product Information

**Source:** Prokaryotic expression.

**Host:** *E.coli*

**Tags:** N-terminal His-Tag

**Subcellular Location:** Secreted

**Purity:** >90%

**Traits:** Freeze-dried powder

**Buffer formulation:** 20mM Tris, 150mM NaCl (pH8.0) to a concentration of 0.1-1.0mg/mL.

**Original Concentration:** 200µg/mL

**Applications:** Positive Control; Immunogen; SDS-PAGE; WB.

(May be suitable for use in other assays to be determined by the end user.)

**Predicted isoelectric point:** 6.3



**Predicted Molecular Mass:** 58.4kDa

**Accurate Molecular Mass:** 58kDa as determined by SDS-PAGE reducing conditions.

## **[ USAGE ]**

Reconstitute in ddH<sub>2</sub>O to a concentration of 0.1-0.5 mg/mL. Do not vortex.

## **[ STORAGE AND STABILITY ]**

**Storage:** Avoid repeated freeze/thaw cycles.

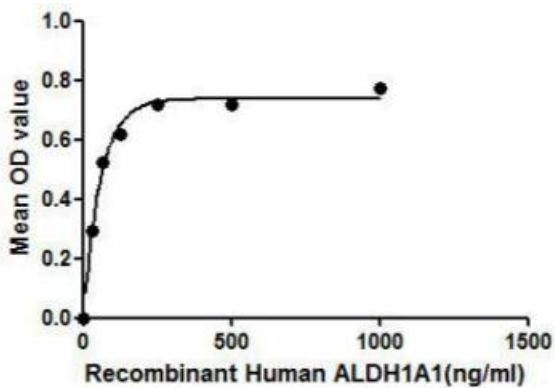
Store at 2-8°C for one month.

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

**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.

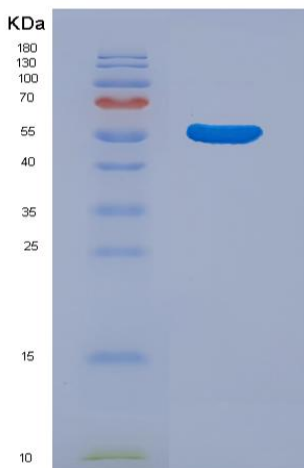
## **[ ACTIVITY ]**

ALDH1A1 (Retinal dehydrogenase 1) which belongs to the aldehyde dehydrogenase family, is the next enzyme after alcohol dehydrogenase in the major pathway of alcohol metabolism. ALDH1A1 converts retinaldehyde to retinoic acid. IL21 (interleukin 21) was identified as an interactor of ALDH1A1 through Affinity Capture-MS. Thus a binding ELISA assay was conducted to detect the interaction of recombinant human ALDH1A1 and recombinant human IL21. Briefly, ALDH1A1 were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100 µL ALDH1A1 were then transferred to IL21-coated microtiter wells and incubated for 2h at 37 °C. Wells were washed with PBST and incubated for 1h with anti-ALDH1A1 pAb, then aspirated and washed 3 times. After incubation with HRP labelled secondary antibody, wells were aspirated and washed 3 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37 °C. Finally, add 50 µL stop solution to the wells and read at 450nm immediately. The binding activity of ALDH1A1 and IL21 was shown in Figure 1, and this effect was in a dose dependent manner.



**Figure 1. The binding activity of ALDH1A1 with IL21.**

## [ IDENTIFICATION ]



**Figure 2. SDS-PAGE**

## [ IMPORTANT NOTE ]

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