

APE824Hu01 100µg

Active Aldehyde Dehydrogenase 1 Family, Member A1 (ALDH1A1)

Organism Species: Homo sapiens (Human)

Instruction manual

FOR IN VITRO USE AND RESEARCH USE ONLY

NOT FOR USE IN CLINICAL DIAGNOSTIC PROCEDURES

1th Edition (Apr, 2016)

[PROPERTIES]

Source: Prokaryotic expression.

Host: *E. coli*

Residues: Ser2~Ser501

Tags: N-terminal His-tag

Purity: >95%

Buffer Formulation: 20mM Tris, 150mM NaCl, pH8.0, containing 0.05% sarcosyl and 5% trehalose.

Applications: Cell culture; Activity Assays.

(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 20mM Tris, 150mM NaCl (pH8.0) 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.

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]

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SSSGTPDLP VLLTDLKIQY TKIFINNEWH DSVSGKKFPV FNPATEEELC
QVEEGDKEDV DKAVKAARQA FQIGSPWRTM DASERGRLLY KLADLIERDR
LLLATMESMN GGKLYSNAYL NDLAGCIKTL RYCAGWADKI QGRTIPIDGN
FFT YTRHEPI GVCQGIIIPWN FPLVMLIWKI GPALSCGNTV VVKPAEQTPL
TALHVASLIK EAGFPPGVVN IVPGYGPTAG AAISSHMDID KVAFTGSTEV
GKLIKEAAGK SNLKRVTLEL G GKSPCIVLA DADLDNAVEF AHHGVFYHQG
QCCIAASRIF VEESYDEFV RRSVERAKKY ILGNPLTPGV TQGPQIDKEQ
YDKILD LIES GKKEGAKLEC GGGPWGNKGY FVQPTVFSNV TDEMRIAKEE
IFGPVQQIMK FKSLDDVIKR ANNTFYGLSA GVFTKDIDKA ITISSALQAG
TVWVNCYGVV SAQCPFGGFK MSGNGRELGE YGFHEYTEVK TTVTKISQKN
S
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[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 100uL 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 50µL 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.

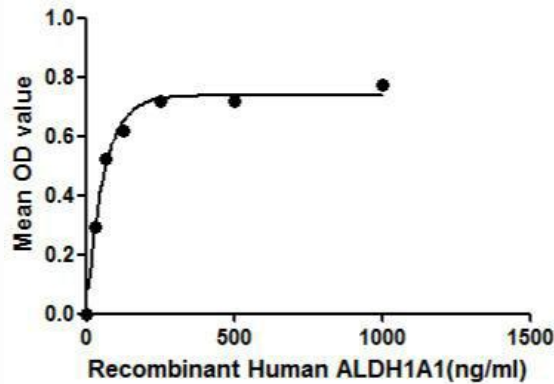


Figure 1. The binding activity of ALDH1A1 with IL21.

[IDENTIFICATION]

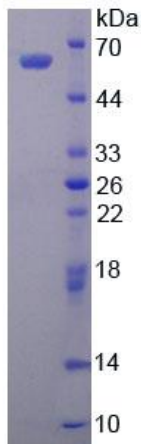


Figure 2. SDS-PAGE

Sample: Active recombinant ALDH1A1, Human

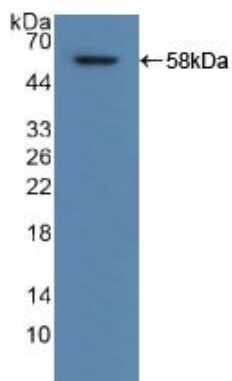


Figure 3. Western Blot

Sample: Recombinant ALDH1A1, Human;

Antibody: Rabbit Anti-Human ALDH1A1 Ab (PAE824Hu01)