

Active Recombinant Human ALDH1A1 protein, His-tagged

Cat. No. ALDH1A1-883H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Active Recombinant Human ALDH1A1 protein(P00352)(2-501 aa), fused with N-terminal His tag, was expressed in E.coli.
Species	Human
Source	E.coli
ProteinLength	2-501 aa
Form	PBS, pH7.4, containing 0.01% SKL, 1mM DTT, 5% Trehalose and Proclin300.
Bio-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 50μ stop solution to the wells and read at 450nm immediately. The binding activity of ALDH1A1 and

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IL21 was shown, and this effect was in a dose dependent manner. The activity of recombinant human ALDH1A1 was also measured by its ability to produce NADH during the oxidation of propionaldehyde. The reaction was performed in 0.1 M Tris, 0.1 M KCl, 2mM DTT, pH 8.5 (assay buffer), initiated by addition 50 µL of various concentrations of ALDH1A1 (diluted by assay buffer) to 50 µ of substrate mixture 2 mM beta-NAD and 20 mM propionaldehyde. The final well serves as a negative control with no ALDH1A1, replaced with 50 µl assay buffer. Read at a wavelength of 340 nm in kinetic mode for 5 minutes. The specific activity of recombinant human ALDH1A1 is > 130 pmol/min/g.

Molecular Mass 58.4kDa

Endotoxin <1.0EU per 1µg (determined by the LAL method).

Purity > 95%

Storage Avoid repeated freeze/thaw cycles. Store at 2-8°C for one month. Store at -20°C for 12 months. Aliquot and store at -80°C for 12 months.

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

GENE INFORMATION

Gene Name ALDH1A1 aldehyde dehydrogenase 1 family, member A1 [Homo sapiens]

Official Symbol ALDH1A1

Synonyms ALDH1A1; aldehyde dehydrogenase 1 family, member A1; ALDH1, PUMB1; retinal dehydrogenase 1; RALDH1; retinaldehyde dehydrogenase 1; ALHDII; RALDH 1; ALDH class 1; acetaldehyde dehydrogenase 1; aldehyde dehydrogenase 1, soluble;

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aldehyde dehydrogenase, liver cytosolic; ALDC; ALDH1; PUMB1; ALDH11; ALDH-E1; MGC2318;

Gene ID 216

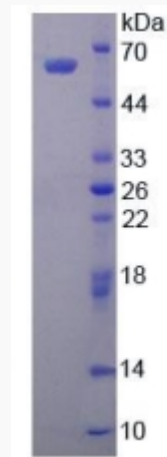
mRNA Refseq NM_000689

Protein Refseq NP_000680

MIM 100640

UniProt ID P00352

SDS-PAGE

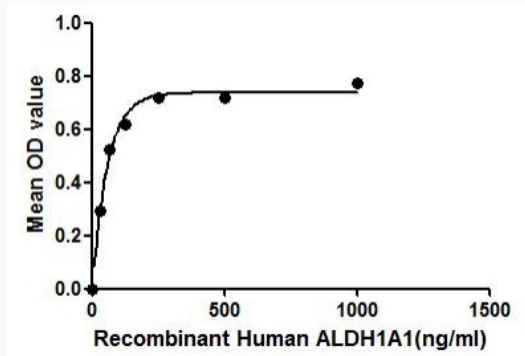


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Activity



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