

Active Recombinant Human ALDH1A1 protein, His-tagged

Cat. No. ALDH1A1-1100H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human ALDH1A1(Ser2-Ser501) fused with an N-terminal Met and 6-His tag was expressed in E. coli.
Species	Human
Source	E.coli
ProteinLength	2-501 a.a.
Description	Aldehyde dehydrogenases (ALDHs) are NAD(P)+-dependent enzymes that detoxify aldehydes by oxidizing them to carboxylic acids. Nineteen ALDHs are present in humans, expressed in a variety of organelles and having different substrate preferences. ALDH1A1 is a cytosolic enzyme that preferentially oxidizes retinaldehyde to retinoic acid. ALDH1A1 is expressed in the epithelium of many organs, including brain, liver, testis, eye lens and cornea. ALDH1A1 is highly expressed in brain dopaminergic neurons, where it produces the retinoic acid required for their differentiation and development. The retinoic acid produced by ALDH1A1 is also important for the differentiation of hematopoietic stem cells. ALDH1A1 is a major enzyme in the oxidation of acetaldehyde, a toxic metabolite of ethanol.
Predicted N Terminal	Ser2
Form	Supplied as a 0.2 µm filtered solution in Tris, NaCl, Glycerol and DTT.

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Bio-activity	Measured by its ability to produce NADH during the oxidation of propionaldehyde. The specific activity is >150 pmol/min/μg.
Molecular Mass	Predicted Molecular Mass: 56 kDa SDS-PAGE: 57 kDa, reducing conditions
Endotoxin	<1.0 EU per 1 μg of the protein by the LAL method.
Purity	>90%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Storage	Avoid repeated freeze-thaw cycles. 6 months from date of receipt, -70 centigrade as supplied. 3 months, -70 centigrade under sterile conditions after opening.

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; aldehyde dehydrogenase, liver cytosolic; ALDC; ALDH1; PUMB1; ALDH11; ALDH-E1; MGC2318;
Gene ID	216
mRNA Refseq	NM_000689

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Protein Refseq	NP_000680
MIM	100640
UniProt ID	P00352
Chromosome Location	9q21.13
Pathway	Biological oxidations, organism-specific biosystem; Ethanol oxidation, organism-specific biosystem; Fatty Acid Omega Oxidation, organism-specific biosystem; Metabolic pathways, organism-specific biosystem; Metabolism, organism-specific biosystem; Phase 1 - Functionalization of compounds, organism-specific biosystem; Retinol metabolism, organism-specific biosystem;
Function	Ras GTPase activator activity; aldehyde dehydrogenase (NAD) activity; androgen binding; oxidoreductase activity; retinal dehydrogenase activity;

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