

## Product datasheet for **AR09371PU-N**

### ALDH3 (1-453, His-tag) Human Protein

#### Product data:

Product Type:	Recombinant Proteins
Description:	ALDH3 (1-453, His-tag) human recombinant protein, 50 µg
Species:	Human
Expression Host:	E. coli
Expression cDNA Clone or AA Sequence:	<u>MGSSHHHHHH SSSLVPRGSH</u> MSKISEAVKR ARAAFSSGRT RPLQFRIQQL EALQRLLIQEQ EQELVGALAA DLHKNEWNAY YEEVVVLEE IEYMIQKLPE WAADEPVEKT PQTQQDELYI HSEPLGVVLV IGTWNYPFNL TIQPMVGAIA AGNAVLKPS ELSENMASLL ATIIPQYLDK DLYPVINGGV PETTELLKER FDHILYTGST GVGKIIMTAA AKHLTPVTLE LGGKSPCYVD KNCDLDVACR RIAWGKFMNS GQTCVAPDYI LCDPSIQNQI VEKLLKSLKE FYGEDAKKSR DYGRIISARH FQRVMGLIEG QKVAYGGTGD AATRYIAPTI LTDVDPQSPV MQEEIFGPVL PIVCVRSLEE AIQFINQREK PLALYMSSN DKVIKKMIAE TSSGGVAAND VIVHITLHSL PFGGVGNSGM GSYHGKKSFE TFSHRRSCLV RPLMNDEGLK VRYPPSPAKM TQH
Tag:	His-tag
Predicted MW:	52.5 kDa
Concentration:	lot specific
Purity:	>95% by SDS - PAGE
Buffer:	Presentation State: Purified State: Liquid purified protein Buffer System: 20 mM Tris-HCl buffer (pH 8.0) containing 10% glycerol, 0.1 M NaCl



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**Bioactivity:** Biological: Specific activity is < 1 unit/ml and was obtained by measuring the increase of NADP in absorbance at 340 nm resulting from the reduction of NAD.  
One unit will oxidize 1.0 umole of acetaldehyde to acetic acid per minute at pH 8.0 at 25°C in the presence of beta-NAD, potassium and thiols.

Activity Assay

1. Prepare a 3 ml reaction mixture into a suitable container: The final concentrations are 103 mM Tris, 0.67 mM beta-NAD, 100 mM potassium chloride, 10 mM 2-mercaptoethanol, 2 mM acetaldehyde, 0.0007 % (w/v) BSA.
2. Equilibrate to 25°C and monitor the A340nm until the value is constant using a spectrophotometer.
3. Add 2.5 ug of recombinant ALDH3A1 into reaction mixture and mix immediately.
4. Record the increase in A340nm for 5 minutes.

**Preparation:** Liquid purified protein

**Protein Description:** Recombinant ALDH3A1 protein, fused to His-tag, was expressed in E.coli and purified by using conventional chromatography techniques.

**Storage:** Store undiluted at 2-8°C for up to two weeks or (in aliquots) at -20°C or -70°C for longer. Avoid repeated freezing and thawing.

**Stability:** Shelf life: one year from despatch.

**RefSeq:** [NP\\_000682](#)

**Locus ID:** 218

**UniProt ID:** [P30838](#), [Q6PKA6](#)

**Cytogenetics:** 17p11.2

**Synonyms:** ALDH3; ALDHIII

**Summary:** Aldehyde dehydrogenases oxidize various aldehydes to the corresponding acids. They are involved in the detoxification of alcohol-derived acetaldehyde and in the metabolism of corticosteroids, biogenic amines, neurotransmitters, and lipid peroxidation. The enzyme encoded by this gene forms a cytoplasmic homodimer that preferentially oxidizes aromatic and medium-chain (6 carbons or more) saturated and unsaturated aldehyde substrates. It is thought to promote resistance to UV and 4-hydroxy-2-nonenal-induced oxidative damage in the cornea. The gene is located within the Smith-Magenis syndrome region on chromosome 17. Multiple alternatively spliced variants, encoding the same protein, have been identified. [provided by RefSeq, Sep 2008]

**Protein Families:** Druggable Genome

**Protein Pathways:** Drug metabolism - cytochrome P450, Glycolysis / Gluconeogenesis, Histidine metabolism, Metabolic pathways, Metabolism of xenobiotics by cytochrome P450, Phenylalanine metabolism, Tyrosine metabolism

## Product images:

