
Product Data Sheet

Product Name: ALDH3A1 Human

Cat. No.: GP21389

Batch No.: 1

Product Data

Purity	>98%	Source	Escherichia Coli.
Physical Appearance	solid	Shipping Condition	Shipped with Ice Packs.
Synonyms	Aldehyde dehydrogenase 3 family member A1; aldehyde dehydrogenase; dimeric NADP-preferring; ALDH-3; aldehyde dehydrogenase isozyme; ALDHIII; MGC104062; aldehyde dehydrogenase type III; Aldehyde dehydrogenase; stomach aldehyde dehydrogenase; EC 1.2.1.53; aldehyde dehydrogenase 3A; Aldehyde dehydrogenase.		
Amino Acid Sequence	<p>MGSSHHHHHH SGLVPRGSH MSKISEAVKR ARAAFSSGRT RPLQFRIQQL EALQRLIQEQ EQELVGALAA DLHKNEWNAV YEEVVYVLEE IEYMIQKLPE WAADEPVEKT PQTQQDELYI HSEPLGVVLV IGTWNYPFNL TIQPMVGAIA AGNAVVLKPS ELSENMASLL ATIIPQYLDK DLYPVINGGV PETTELLKER FDHILYTGST GVGKIIMTAA AKHLTPVTLE LGGKSPCYVD KNCDLDVACR RIAWGKFMNS GQTCVAPDYI LCDPSIQNQI VEKLLKSLKE FYGEDAKKSR DYGRIISARH FQRVMGLIEG QKVAYGGTGD AATRYIAPTI LTDVDPQSPV MQEEIFGPVLPVIVCVRSLEE AIQFINQREK PLALYMFSSN DKVIKKMIAE TSSGGVAAND VIVHITLHSL PFGGVGNSGM GSYHGKKSFE TFSHRRSCLV RPLMNDEGLK VRYPPSPAKM TQH.</p>		
Formulation	ALDH3A1 solution containing 20mM Tris-HCl pH-8, 0.1M NaCl and 10% glycerol.		

Introduction

ALDH3A1 is involved in the detoxification of alcohol-derived acetaldehyde. ALDH3A1 participates in the metabolism of corticosteroids, biogenic amines, neurotransmitters, and lipid peroxidation. ALDH3A1 oxidizes aromatic aldehyde substrates and toxic aldehydes. ALDH3A1 forms a cytoplasmic homodimer that oxidizes aromatic and medium-chain saturated and unsaturated aldehyde substrates. ALDH3A1 promotes resistance to UV and 4-hydroxy-2-nonenal-induced oxidative damage in the cornea.

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA

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Biological Activity

Specific activity was found to be < 1 units/ml. Activity was obtained by measuring the increase of NADP in absorbance at 340 nm resulting from the reduction of NAD. 1 unit will oxidize 1umole of acetaldehyde to acetic acid per minute at pH 8 at 25°C in the presence of beta-NAD, potassium and thiols.

Stability

Store at 4°C if entire vial will be used within 2-4 weeks. Store, frozen at -20°C for longer periods of time. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Avoid multiple freeze-thaw cycles.

Background

ALDH3A1 Human Recombinant produced in E.Coli is a single, non-glycosylated, polypeptide chain containing 473 amino acids (1-453 a.a.) and having a molecular mass of 52.5 kDa. ALDH3A1 is fused to a 20 amino acid His Tag at N-terminus and purified by proprietary chromatographic techniques.

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