Datasheet for ABIN7317365

ALDH3A1 Protein (His tag)

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Overview

Quantity:	50 µg
Target:	ALDH3A1
Origin:	Human
Source:	Baculovirus infected Insect Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This ALDH3A1 protein is labelled with His tag.

Product Details

Purpose:	Recombinant Human ALDH3A1 Protein (Baculovirus, His Tag)
Sequence:	Met 1-His 453
Characteristics:	A DNA sequence encoding the human ALDH3A1 (AAH04370.1) (Met 1-His 453) was fused with a polyhistidine tag at the N-terminus.
Purity:	> 90 % as determined by reducing SDS-PAGE.
Endotoxin Level:	< 1.0 EU per µg of the protein as determined by the LAL method.

Target Details

Target:	ALDH3A1
Alternative Name:	ALDH3A1 (ALDH3A1 Products)
Background:	Background: Aldehyde dehydrogenase 3A1 (ALDH3A1) is a metabolic enzyme that catalyzes the oxidation of various aldehydes. Certain types of epithelial tissues in mammals, especially those continually exposed to environmental stress (e.g., corneal epithelium), express ALDH3A1

Target Details

	at high levels and its abundance in such tissues is perceived to help to maintain cellular homeostasis under conditions of oxidative stress. Metabolic as well as non-metabolic roles for ALDH3A1 have been associated with its mediated resistance to cellular oxidative stress. Aldehyde dehydrogenase 1A1 (ALDH1A1) and ALDH3A1 are corneal crystallins. They protect inner ocular tissues from ultraviolet radiation (UVR)-induced oxidative damage through catalytic and non-catalytic mechanisms. Additionally, ALDH3A1 has been postulated to play a regulatory role in the corneal epithelium based on several studies that report an inverse association between ALDH3A1 expression and corneal cell proliferation. Aldehyde dehydrogenase 3A1 (ALDH3A1) plays an important role in many cellular oxidative processes, including cancer chemoresistance, by metabolizing activated forms of oxazaphosphorine drugs such as cyclophosphamide (CP) and its analogues, such as mafosfamide (MF), ifosfamide (IFM), and 4-hydroperoxycyclophosphamide (4-HPCP). Compounds that can selectively target ALDH3A1 could permit delineation of its roles in these processes and could restore chemosensitivity in cancer cells that express this isoenzyme. ALDH3A1 may act to protect corneal cells against cellular oxidative damage by metabolizing toxic lipid peroxidation products (e.g., 4-HNE), maintaining cellular GSH levels and redox balance, and operating as an antioxidant. Synonym: Aldehyde dehydrogenase, dimeric NADP-preferring,ALDH3,ALDH3A1,Aldehyde dehydrogenase family 3 member A1,Aldehyde dehydrogenase 3,ALDHIII,ALDH3A1
Molecular Weight:	52.6 kDa

Application Details

Restrictions:	For Research Use only

Handling

Format:	Lyophilized
Reconstitution:	Please refer to the printed manual for detailed information.
Buffer:	Lyophilized from sterile 20 mM Tris, 500 mM NaCl, pH 7.4, 10 % glycerol
Storage:	4 °C,-20 °C,-80 °C
Storage Comment:	Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.