

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Aldehyde Dehydrogenase 3-A1/ALDH3A1 in direct ELISAs and Western blots.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	<i>E. coli</i> -derived recombinant human Aldehyde Dehydrogenase 3-A1/ALDH3A1 Ser2-His453 Accession # P30838
Conjugate	Alexa Fluor 647 Excitation Wavelength: 650 nm Emission Wavelength: 668 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide
*Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.	

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. [General Protocols](#) are available in the Technical Information section on our website.

Western Blot	Optimal dilution of this antibody should be experimentally determined.
Immunocytochemistry	Optimal dilution of this antibody should be experimentally determined.
Immunohistochemistry	Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

BACKGROUND

ALDH3A1 (Aldehyde dehydrogenase 3; also aldehyde dehydrogenase, dimeric NADP-preferring) is a 51-55 kDa, nuclear and cytosolic member of the ALDH3 family, ALDH superfamily of enzymes. It has widespread expression, being found in pancreatic acinar cells, corneal epithelium and stromal keratocytes, stem cells, and likely the epithelium of the jejunum. ALDH3A1 has many activities, including the detoxification of lipid peroxidation-derived medium chain (>5 carbon) aldehydes, the absorption of UV light in the cornea, acting as an antioxidant through the production of NADPH, and the extension of the cell cycle in expressing cells by reducing cyclin-dependent kinase activity. Notably, the critically important absorption of UVB light by ALDH3A1 in the cornea induces its aggregation and renders the molecule inactive as an enzyme. Human ALDH3A1 is 453 amino acids (aa) in length. It contains four acetylated lysines and a general catalytic region between aa 5-447. There are potentially six splice variants, one of which shows a 130 aa substitution for aa 1-247. Over aa 2-453, human ALDH3A1 shares 80% and 61% aa sequence identity with mouse ALDH3A1 and human ALDH3A2, respectively.

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