

## DESCRIPTION

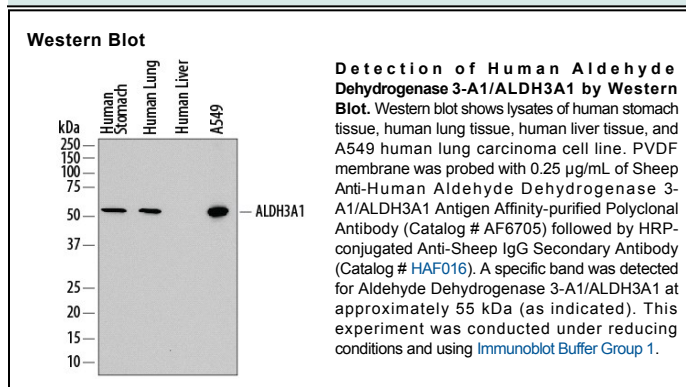
<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human Aldehyde Dehydrogenase 3-A1/ALDH3A1 in direct ELISAs and Western blots.
<b>Source</b>	Polyclonal Sheep IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	<i>E. coli</i> -derived recombinant human Aldehyde Dehydrogenase 3-A1/ALDH3A1 Ser2-His453 Accession # P30838
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

## 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.

	Recommended Concentration	Sample
<b>Western Blot</b>	0.25 µg/mL	See Below

## DATA



## PREPARATION AND STORAGE

<b>Reconstitution</b>	Sterile PBS to a final concentration of 0.2 mg/mL.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>● 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

## 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.