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ALDH1A3 Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)

Catalog # AP7847a

Specification

ALDH1A3 Antibody (N-term) - Product Information

Application	**WB, IHC-P,E**
Primary Accession	P47895
Reactivity	**Human, Mouse**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Antigen Region	**24-52**

ALDH1A3 Antibody (N-term) - Additional Information

Gene ID 220

Other Names
Aldehyde dehydrogenase family 1 member A3, Aldehyde dehydrogenase 6, Retinaldehyde dehydrogenase 3, RALDH-3, RalDH3, ALDH1A3, ALDH6

Target/Specificity
This ALDH1A3 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 24-51 amino acids from the N-terminal region of human ALDH1A3.

Dilution
WB~~1:1000
IHC-P~~1:10~50

Format
Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.

Storage
Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
ALDH1A3 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

ALDH1A3 Antibody (N-term) - Protein Information

Name ALDH1A3

Synonyms ALDH6 {ECO:0000303|PubMed:7698756}

Function Catalyzes the NAD-dependent oxidation of aldehyde substrates, such as all-trans-retinal and all-trans-13,14-dihydroretinal, to their corresponding carboxylic acids, all-trans-retinoate and all-trans- 13,14-dihydroretinoate, respectively (By similarity) (PubMed:27759097). High specificity for all-trans-retinal as substrate, can also accept acetaldehyde as substrate in vitro but with lower affinity (PubMed:27759097). Required for the biosynthesis of normal levels of retinoate in the embryonic ocular and nasal regions; a critical lipid in the embryonic development of the eye and the nasal region (By similarity).

Cellular Location
Cytoplasm {ECO:0000250|UniProtKB:Q9JHW9}.

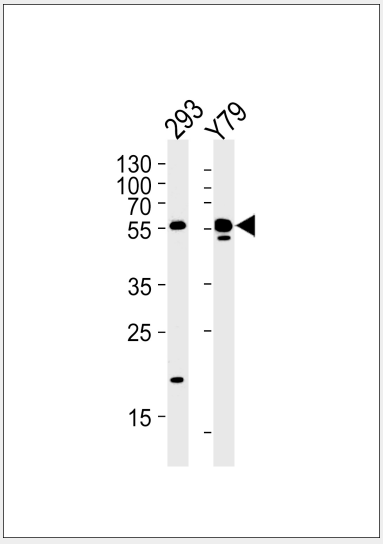
Tissue Location
Expressed at low levels in many tissues and at higher levels in salivary gland, stomach, and kidney

ALDH1A3 Antibody (N-term) - Protocols

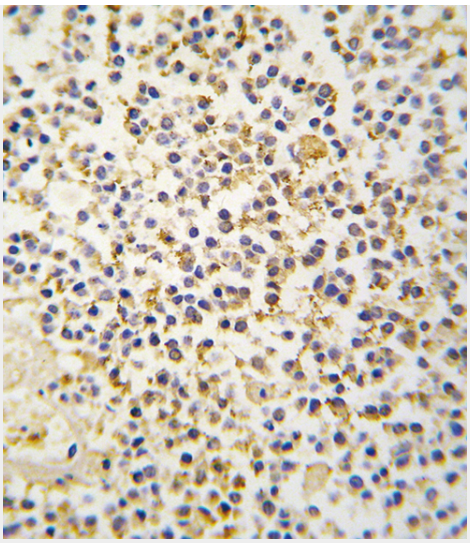
Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

ALDH1A3 Antibody (N-term) - Images



ALDH1A3 Antibody (N-term) (Cat.# AP7847a) western blot analysis in 293,Y79 cell line lysates (35ug/lane).This demonstrates the ALDH1A3 antibody detected the ALDH1A3 protein (arrow).



Formalin-fixed and paraffin-embedded human kideny tissue reacted with ALDH1A3 antibody (N-term), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.

ALDH1A3 Antibody (N-term) - Background

Aldehyde dehydrogenase isozymes are thought to play a major role in the detoxification of aldehydes generated by alcohol metabolism and lipid peroxidation. The enzyme ALDH1A3 uses retinal as a substrate, either in a free or cellular retinol-binding protein form.

ALDH1A3 Antibody (N-term) - References

Rexer,B.N., Cancer Res. 61 (19), 7065-7070 (2001)
Yoshida,A., Eur. J. Biochem. 251 (3), 549-557 (1998)

ALDH1A3 Antibody (N-term) - Citations

- ALDH1A3 Coordinates Metabolism With Gene Regulation in Pulmonary Arterial Hypertension
- The RNA-binding protein MEX3A is a prognostic factor and regulator of resistance to gemcitabine in pancreatic ductal adenocarcinoma
- Androgen Receptor signaling promotes the neural progenitor cell pool in the developing cortex
- Aldehyde dehydrogenases contribute to skeletal muscle homeostasis in healthy, aging, and Duchenne muscular dystrophy patients
- Cancer Stem Cell Biomarkers in EGFR-Mutation-Positive Non-Small-Cell Lung Cancer.
- A Sox2-Sox9 signalling axis maintains human breast luminal progenitor and breast cancer stem cells.
- ALDH1A3 is epigenetically regulated during melanocyte transformation and is a target for melanoma treatment.
- Therapeutic potential of the metabolic modulator phenformin in targeting the stem cell compartment in melanoma.
- Induced Expression of Cancer Stem Cell Markers ALDH1A3 and Sox-2 in Hierarchical Reconstitution of Apoptosis-resistant Human Breast Cancer Cells.
- Aldh1 Expression and Activity Increase During Tumor Evolution in Sarcoma Cancer Stem Cell Populations.
- ALDH Enzyme Expression Is Independent of the Spermatogenic Cycle and Their Inhibition Causes Misregulation of Murine Spermatogenic Processes.
- Down-regulation of ALDH1A3, CD44 or MDR1 sensitizes resistant cancer cells to FAK autophosphorylation inhibitor Y15.

- Importance of ALDH1A enzymes in determining human testicular retinoic acid concentrations.
- Essential role of aldehyde dehydrogenase 1A3 for the maintenance of non-small cell lung cancer stem cells is associated with the STAT3 pathway.
- Cellular level classification of breast cancer through proteomic markers using nanochannel array sensors.