

#54135 Store at -20°C

**ALDH1A1 (D9Q8E) XP® Rabbit mAb****Cell Signaling**  
TECHNOLOGY®**Orders:** 877-616-CELL (2355)  
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**For Research Use Only. Not for Use in Diagnostic Procedures.**

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB, IP, IHC-P, FC-FP	H	Endogenous	55	Rabbit IgG	#P00352	216

**Product Usage Information****Application**

Western Blotting  
Immunoprecipitation  
Immunohistochemistry (Paraffin)  
Flow Cytometry (Fixed/Permeabilized)

**Dilution**

1:1000  
1:100  
1:200  
1:200

**Storage**

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

**Specificity / Sensitivity**

ALDH1A1 (D9Q8E) XP® Rabbit mAb recognizes endogenous levels of total ALDH1A1 protein.

**Source / Purification**

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Leu336 of human ALDH1A1 protein.

**Background**

The aldehyde dehydrogenase family is a large group of enzymes that oxidize aldehydes formed through metabolic processes to their carboxylic acids (1). ALDH1A1 is a liver cytosolic isoform of acetaldehyde dehydrogenase and is involved in the major pathway of alcohol metabolism along with alcohol dehydrogenase (2). ALDH1A1 is also known as retinal dehydrogenase 1 and is involved in retinol metabolism, converting retinol to retinoic acid (3). Recent studies suggest that control of retinoid signaling through ALDH1A1 may influence hematopoietic stem cell differentiation (4). There has been recent interest in ALDH1 isoforms as predictive biomarkers in disease. Several studies have suggested that ALDH1A1 is a potential marker for cancer stem cells and chemoresistance in several tumor types, such as melanoma (5), lung cancer (6), and glioblastoma (7).

**Background References**

1. Jackson, B. et al. (2011) *Hum Genomics* 5, 283-303.
2. Edenberg, H.J. (2007) *Alcohol Res Health* 30, 5-13.
3. Duester, G. (2000) *Eur J Biochem* 267, 4315-24.
4. Chute, J.P. et al. (2006) *Proc Natl Acad Sci U S A* 103, 11707-12.
5. Luo, Y. et al. (2012) *Stem Cells* 30, 2100-13.
6. Huang, C.P. et al. (2013) *Cancer Lett* 328, 144-51.
7. Schäfer, A. et al. (2012) *Neuro Oncol* 14, 1452-64.

**Species Reactivity**

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

**Western Blot Buffer**

**IMPORTANT:** For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

**Applications Key**

**WB:** Western Blotting **IP:** Immunoprecipitation **IHC-P:** Immunohistochemistry (Paraffin)  
**FC-FP:** Flow Cytometry (Fixed/Permeabilized)

**Cross-Reactivity Key**

**H:** human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster  
**X:** Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse  
**GP:** Guinea Pig **Rab:** rabbit **All:** all species expected

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