Revision 3

Store at -20C

#12035

ALDH1A1 (D4R9V) Rabbit mAb

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP	H M	Endogenous	55	Rabbit IgG	#P00352	216

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:100

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 (D4R9V) 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 near the carboxy terminus of mouse 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

W: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

H: Human **M:** Mouse

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Limited Uses

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