

ALDH1A1 Antibody

Purified Mouse Monoclonal Antibody Catalog # AO1454a

Product Information

Application WB, IHC, E **Primary Accession** P00352 Reactivity Human Host Mouse Clonality Monoclonal **Clone Names** 5A11 Isotype IgG1 **Calculated MW** 54862 Da

Description ALDH1A1 is an aldehyde dehydrogenase able to oxidize a wide variety of

aliphatic aldehydes (retinaldehyde, acetaldehyde, etc.) to the corresponding carboxylic acids (retinoic acid, acetic acid, etc.). ALDH1A1 (also known as RALDH1, ALDH1, or AHD2) is highly expressed in the dorsal retina, ventral midbrain (dopaminergic neurons), and hematopoietic stem cells. ALDH1A1 is involved in retinoic acid (RA) synthesis during vertebrate embryogenesis.

ALDH1A1 is first detected at E9.0-E10.5 in cranial tissues (ventral

mesencephalon, dorsal retina, thymic primordia, optic vesicles) and in the mesonephros. ALDH1A1 is also of interest in Parkinson's Disease (PD) being expressed in the the A9 dopaminergic (DA) neuronal group projecting to the dorsal striatum; this is the most vulnerable site in PD (Chung et al, 2005). ALDH1A1 protein is a known mesencephalic dopaminergic marker. ALDH1A1 is a cytosolic enzyme that preferentially oxidizes retinaldehyde to retinoic acid .ALDH1A1 is expressed in the epithelium of many organs, including brain, liver, testis, eye lens and cornea .ALDH1A1 is highly expressed in brain dopaminergic neurons, where it produces the retinoic acid required for their differentiation and development .The retinoic acid produced by ALDH1A1 is

also important for the differentiation of hematopoietic stem cells.

Immunogen Purified recombinant fragment of human ALDH1A1 expressed in E. Coli.

Formulation Ascitic fluid containing 0.03% sodium azide.

Additional Information

Other Names Retinal dehydrogenase 1, RALDH 1, RalDH1, 1.2.1.36, ALDH-E1, ALHDII,

Aldehyde dehydrogenase family 1 member A1, Aldehyde dehydrogenase,

cytosolic, ALDH1A1, ALDC, ALDH1, PUMB1

Dilution WB~~1/500 - 1/2000 IHC~~1/200 - 1/1000 E~~N/A

Storage Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store

at -20°C in small aliquots to prevent freeze-thaw cycles.

ALDH1A1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

References

1. J Hum Genet. 2009 Jun;54(6):317-23. 2. J Hum Genet. 2009 Oct;54(10):564-71. 3. J Neurosci Res. 2010 Feb 15;88(3):686-94.

Images

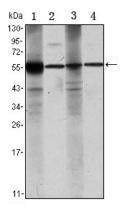


Figure 1: Western blot analysis using ALDH1A1 mouse mAb against Raji (1), Jurkat (2), THP-1 (3) and K562 (4) cell lysate.

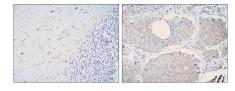


Figure 2: Immunohistochemical analysis of paraffin-embedded cerebellum tissues (left) and lung cancer (right) using ALDH1A1 mouse mAb with DAB staining.

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