

Anti-ALDH1A1 Antibody (6M553)

Product Details

Ig Type:	Mouse IgG1
Reactivity:	Human
Conjugation:	Unconjugated
Clone:	6M553
Purification:	Protein A

Applications

Verified Activity:	<p>1. Immunofluorescence staining of Human ALDH1A1 in MCF7 or SKBR3 cells. Cells were fixed with 4% PFA, permeabilized with 1% Triton X-100 in PBS, blocked with 10% serum, and incubated with mouse anti-Human ALDH1A1 monoclonal antibody (1:60). Then cells were stained with the Alexa Fluor® 488-conjugated Goat Anti-mouse IgG secondary antibody (left panel, captured by laser confocal scanning microscope; right panel, captured by fluorescence microscope), counterstained with DAPI (blue). Positive staining was localized to cytoplasm.</p> <p>2. Flow cytometric analysis of Human ALDH1A1 on A549 cells. Cells were treated according to manufacturer's manual (BD Pharmingen™ Cat. No. 554714), stained with purified anti-Human ALDH1A1, then a FITC-conjugated second step antibody. The histogram were derived from gated events with the forward and side light-scatter characteristics of intact cells.</p> <p>3. Anti-ALDH1A1 mouse monoclonal antibody at 1:500 dilution.</p> <ul style="list-style-type: none">-Lane A: HepG2 Whole Cell lysate.-Lysates/proteins at 30 µg per lane.-Secondary-Rabbit Anti-Mouse IgG F(ab)2/HRP at 1/10000 dilution.-Developed using the ECL technique.-Performed under reducing conditions.-Predicted band size:55 kDa.-Observed band size:55 kDa
Application:	ELISA,FCM,ICC/IF,WB
Recommended	WB: 1:500-1:2000; ELISA: 1:1000-1:2000; ICC-IF: 1:20-1:100; FCM: 1:25-1:100

Properties

Stability & Storage:	Store at 2°C-8°C for 1 month. Store at -20°C or -80°C for 12 months. Avoid repeated freeze-thaw cycles. Preservative-Free.
Shipping:	Shipping with blue ice.

Antigen Details

Immunogen: Recombinant Protein: Human ALDH1 protein (TMPY-01583)
Antigen Species: Human
Synonyms: ALDH11;PUMB1;aldehyde dehydrogenase 1 family, member A1;HEL12;RALDH1;HEL-9;ALDH1;HEL-S-53e;ALDH-E1;ALDC

Research Background

Aldehyde dehydrogenase 1 family, member A1 (ALDH1A1), also known as Aldehyde dehydrogenase 1 (ALDH1), or Retinaldehyde Dehydrogenase 1 (RALDH1), is an enzyme that is expressed at high levels in stem cells and that has been suggested to regulate stem cell function. The retinaldehyde dehydrogenase (RALDH) subfamily of ALDHs, composed of ALDH1A1, ALDH1A2, ALDH1A3, and ALDH8A1, regulate development by catalyzing retinoic acid biosynthesis. The ALDH1A1 protein belongs to the aldehyde dehydrogenases family of proteins. Aldehyde dehydrogenase is the second enzyme of the major oxidative pathway of alcohol metabolism. ALDH1A1 also belongs to the group of corneal crystallins that help maintain the transparency of the cornea. Increased ALDH1A1 activity has been found in the stem cell populations of leukemia and some solid tumors. In tumor specimens, increased ALDH1A1 immunopositivity was found not only in secretory type cancer epithelial cells but also in neuroendocrine tumor populations. ALDH1 has been identified as a reliable marker of breast cancer stem cells. ALDH1 expression in primary cancer is an independent prognostic factor in node-positive breast cancer patients. ALDH1A1 plays a key role in normal hematopoiesis, and as a TLX1 transcriptional target, ALDH1A1 may contribute to the ability of this homeoprotein to alter cell fate and induce tumor growth.

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