Data Sheet (Cat.No.TMAY-02422)

Anti-ALDH4A1 Antibody (9Z387)

Product Details

Ig Type:	Rabbit IgG
Reactivity:	Human
Conjugation:	Unconjugated
Clone:	9Z387
Purification:	Protein A

Applications

Verified Activity:	1. ALDH4A1 was immunoprecipitated using: -Lane A:0.5 mg HepG2 Whole Cell Lysate. -2 µL anti-ALDH4A1 rabbit monoclonal antibody and 60 µg of Immunomagnetic beads Protein G. -Primary antibody: -Anti-ALDH4A1 rabbit monoclonal antibody, at 1:100 dilution. -Secondary antibody: -Dylight 800-labeled antibody to rabbit IgG (H+L), at 1:5000 dilution. -Developed using the odyssey technique. -Performed under reducing conditions. -Predicted band size: 62 kDa. -Observed band size: 62 kDa. 2. Anti-ALDH4A1 rabbit monoclonal antibody at 1:500 dilution. -Lane A: HepG2 Whole Cell Lysate. -Lane B: K562 Whole Cell Lysate. -Lane C: A549 Whole Cell lysate. -Lysates/proteins at 30 µg per lane. -Secondary -Goat Anti-Rabbit IgG H&L (Dylight800) at 1/10000 dilution. -Developed using the Odyssey technique. -Performed under reducing conditions. -Predicted band size:62 kDa. -Observed band size:62 kDa(We are unsure as to the identity of these extra bands.)
Application:	IP,WB
Recommended	WB: 1:500-1:2000; IP: 1-4 µL/mg of lysate

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 ALDH4A1 Protein (TMPY-02799)

Antigen Species: Human

Synonyms: P5CD;ALDH4;aldehyde dehydrogenase 4 family, member A1;P5CDh

Research Background

ALDH4A1 is a member of the aldehyde dehydrogenase family. Aldehyde dehydrogenase enzymes function in the metabolism of many molecules including certain fats (cholesterol and other fatty acids) and protein building blocks (amino acids). Additional aldehyde dehydrogenase enzymes detoxify external substances, such as alcohol and pollutants, and internal substances, such as toxins that are formed within cells. ALDH4A1 is expressed abundantly in liver followed by skeletal muscle, kidney, heart, brain, placenta, lung and pancreas. It is a mitochondrial matrix NAD-dependent dehydrogenase which catalyzes the second step of the proline degradation pathway, converting pyrroline-5-carboxylate to glutamate. Defects in ALDH4A1 are the cause of hyperprolinemia type 2 (HP-2). HP-2 is characterized by the accumulation of delta-1-pyrroline-5-carboxylate (P5C) and proline. The disorder may be causally related to neurologic manifestations, including seizures and mental retardation.