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ERAB Polyclonal Antibody

Catalog # AP69788

Product Information

Application	WB, IHC-P
Primary Accession	Q99714
Reactivity	Human, Mouse, Rat, Monkey
Host	Rabbit
Clonality	Polyclonal
Calculated MW	26923

Additional Information

Gene ID	3028
Other Names	HSD17B10; ERAB; HADH2; MRPP2; SCHAD; XH98G2; 3-hydroxyacyl-CoA dehydrogenase type-2; 17-beta-hydroxysteroid dehydrogenase 10; 17-beta-HSD 10; 3-hydroxy-2-methylbutyryl-CoA dehydrogenase; 3-hydroxyacyl-CoA dehydrogenase type II; Endoplasmic
Dilution	WB~~Western Blot: 1/500 - 1/2000. Immunohistochemistry: 1/100 - 1/300. ELISA: 1/40000. Not yet tested in other applications. IHC-P~~N/A
Format	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.09% (W/V) sodium azide.
Storage Conditions	-20℃

Protein Information

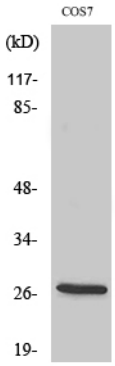
Name	HSD17B10
Synonyms	ERAB, HADH2, MRPP2, SCHAD, SDR5C1, XH98G
Function	Mitochondrial dehydrogenase involved in pathways of fatty acid, branched-chain amino acid and steroid metabolism (PubMed:10600649, PubMed:12917011, PubMed:18996107, PubMed:19706438, PubMed:20077426, PubMed:25925575, PubMed:26950678, PubMed:28888424, PubMed:9553139). Acts as (S)-3-hydroxyacyl-CoA dehydrogenase in mitochondrial fatty acid beta-oxidation, a major degradation pathway of fatty acids. Catalyzes the third step in the beta-oxidation cycle, namely the reversible conversion of (S)-3-hydroxyacyl-CoA to 3- ketoacyl-CoA. Preferentially accepts straight medium- and short-chain acyl-CoA substrates with highest efficiency for (3S)-hydroxybutanoyl- CoA (PubMed:10600649, PubMed:12917011, PubMed:25925575, PubMed:26950678, PubMed:9553139). Acts as 3-hydroxy-2-methylbutyryl-CoA dehydrogenase in branched-chain amino acid

	catabolic pathway. Catalyzes the oxidation of 3-hydroxy-2-methylbutanoyl-CoA into 2-methyl-3- oxobutanoyl-CoA, a step in isoleucine degradation pathway (PubMed:18996107, PubMed:19706438, PubMed:20077426). Has hydroxysteroid dehydrogenase activity toward steroid hormones and bile acids. Catalyzes the oxidation of 3alpha-, 17beta-, 20beta- and 21- hydroxysteroids and 7alpha- and 7beta-hydroxy bile acids (PubMed:10600649, PubMed:12917011). Oxidizes allopregnanolone/brexanolone at the 3alpha-hydroxyl group, which is known to be critical for the activation of gamma-aminobutyric acid receptors (GABAARs) chloride channel (PubMed:19706438, PubMed:28888424). Has phospholipase C-like activity toward cardiolipin and its oxidized species. Likely oxidizes the 2'-hydroxyl in the head group of cardiolipin to form a ketone intermediate that undergoes nucleophilic attack by water and fragments into diacylglycerol, dihydroxyacetone and orthophosphate. Has higher affinity for cardiolipin with oxidized fatty acids and may degrade these species during the oxidative stress response to protect cells from apoptosis (PubMed:26338420). By interacting with intracellular amyloid-beta, it may contribute to the neuronal dysfunction associated with Alzheimer disease (AD) (PubMed:9338779). Essential for structural and functional integrity of mitochondria (PubMed:20077426).
Cellular Location	Mitochondrion. Mitochondrion matrix, mitochondrion nucleoid
Tissue Location	Ubiquitously expressed in normal tissues but is overexpressed in neurons affected in AD.

Background

Mitochondrial dehydrogenase that catalyzes the beta- oxidation at position 17 of androgens and estrogens and has 3- alpha-hydroxysteroid dehydrogenase activity with androsterone (PubMed:9553139, PubMed:23042678, PubMed:12917011, PubMed:18996107, PubMed:25925575, PubMed:28888424). Catalyzes the third step in the beta-oxidation of fatty acids (PubMed:9553139, PubMed:12917011, PubMed:18996107, PubMed:25925575, PubMed:28888424). Carries out oxidative conversions of 7-alpha-OH and 7-beta-OH bile acids (PubMed:12917011). Also exhibits 20-beta- OH and 21-OH dehydrogenase activities with C21 steroids (PubMed:12917011). By interacting with intracellular amyloid-beta, it may contribute to the neuronal dysfunction associated with Alzheimer disease (AD) (PubMed:9338779). Essential for structural and functional integrity of mitochondria (PubMed:20077426).

Images



Western Blot analysis of various cells using ERAB Polyclonal Antibody

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.