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FAHD1 Rabbit pAb

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Catalog # AP55069

Product Information

Application	WB, IHC-P, IHC-F, IF
Primary Accession	Q6P587
Predicted	Rat, Pig, Dog, Human, Mouse, Chicken, Horse, Sheep
Host	Rabbit
Clonality	Polyclonal
Calculated MW	24542
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human FAHD1
Epitope Specificity	101-200/224
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Mitochondrion. Cytoplasm, cytosol.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	FAHD1 is a 224 amino acid protein belonging to the FAH family. Present as a homodimer, FAHD1 is thought to have hydrolase activity and uses magnesium and calcium as cofactors. The gene that encodes FAHD1 maps to human chromosome 16, which encodes over 900 genes in approximately 90 million base pairs, making up nearly 3% of human cellular DNA. The GAN gene is located on chromosome 16 and, with mutation, may lead to giant axonal neuropathy, a nervous system disorder characterized by increasing malfunction with growth. The rare disorder Rubinstein-Taybi syndrome is also associated with chromosome 16, though through the CREBBP gene which encodes a critical CREB binding protein. Signs of Rubinstein-Taybi include mental retardation and predisposition to tumor growth and white blood cell neoplasias. Crohn's disease is a gastrointestinal inflammatory condition associated with chromosome 16 through the NOD2 gene. An association with systemic lupus erythematosis and a number of other autoimmune disorders with the pericentromeric region of chromosome 16 has led to the identification of SLC5A11 as a potential autoimmune modifier.

Additional Information

Gene ID	81889
Other Names	Oxaloacetate tautomerase FAHD1, mitochondrial, 5.3.2.2, Acylpyruvase FAHD1, 3.7.1.5, Fumarylacetoacetate hydrolase domain-containing protein 1, FAH domain-containing protein 1, Oxaloacetate decarboxylase, OAA decarboxylase, ODx, 4.1.1.112, YisK-like protein, FAHD1 {ECO:0000303|PubMed:21878618, ECO:0000312|HGNC:HGNC:14169}

Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,ICC/IF=1:100-500,IF=1:100-500,ELISA=1:5000-10000
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	FAHD1 {ECO:0000303|PubMed:21878618, ECO:0000312|HGNC:HGNC:14169}
Function	Tautomerase that converts enol-oxaloacetate, a strong inhibitor of succinate dehydrogenase, to the physiological keto form of oxaloacetate (PubMed:38287013). It is thereby required to maximize aerobic respiration efficiency by preventing succinate dehydrogenase inhibition (PubMed:38287013). Also acts as a weak oxaloacetate decarboxylase (ODx), catalyzing the decarboxylation of oxaloacetate (OAA) to pyruvate and CO(2), and as such is likely a regulatory enzyme in the TCA cycle (PubMed:25575590, PubMed:30348641). Also displays acylpyruvase activity, being able to hydrolyze acetylpyruvate and fumarylpyruvate in vitro (PubMed:21878618, PubMed:30348641). Exhibits only a weak hydrolase activity on methylacetopyruvate and acetylacetone, and no activity toward acetoacetyl-CoA (PubMed:21878618).
Cellular Location	Mitochondrion. Cytoplasm, cytosol
Tissue Location	Ubiquitous (at protein level).

Background

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