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CH25H Rabbit pAb

Catalog # AP98558

Product Information

Application	WB, IHC-P, IHC-F, IF
Primary Accession	O95992
Other Accession	O95992
Reactivity	Rat, Human
Host	Rabbit
Clonality	Polyclonal
Calculated MW	31745
Physical State	Liquid
Immunogen	Recombinant human CH25H protein
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the sterol desaturase family.
Post-translational modifications	N-glycosylated.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	CH25H (Cholesterol 25-hydroxylase), also known as h25OH, is a 272 amino acid endoplasmic membrane protein that belongs to the sterol desaturase family. CH25H contains clusters of histidine residues essential for catalytic activity and is involved in cholesterol and lipid metabolism. CH25H catalyzes the formation of 25-hydroxycholesterol from cholesterol leading to the repression of cholesterol biosynthetic enzymes. CH25H regulates lipid metabolism by synthesizing a corepressor that blocks sterol regulatory element binding protein (SREBP) processing. CH25H utilizes diiron cofactors to catalyze the hydroxylation of hydrophobic substrates.

Additional Information

Gene ID	9023
Other Names	C25H; m25OH; CH25H_HUMAN; CH25H; Cholesterol 25-monooxygenase (h25OH); 1.14.99.38; CH25H_MOUSE; Cholesterol 25-monooxygenase (m25OH); CH25H_RAT; Cholesterol 25-monooxygenase; cholesterol 25-hydroxylase
Dilution	WB=1:500-2000,IHC-P=1:400-800,IHC-F=1:400-800,IF=1:100-500
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	CH25H (HGNC:1907)
Function	Catalyzes the formation of 25-hydroxycholesterol from cholesterol, leading to repress cholesterol biosynthetic enzymes (PubMed:9852097). Plays a key role in cell positioning and movement in lymphoid tissues: 25-hydroxycholesterol is an intermediate in biosynthesis of 7-alpha,25-dihydroxycholesterol (7-alpha,25-OHC), an oxysterol that acts as a ligand for the G protein-coupled receptor GPR183/EBI2, a chemotactic receptor for a number of lymphoid cells (By similarity). May play an important role in regulating lipid metabolism by synthesizing a corepressor that blocks sterol regulatory element binding protein (SREBP) processing (PubMed:9852097). As an interferon- stimulated gene, has broad antiviral activities against a wide range of enveloped viruses, such as vesicular stomatitis virus (VSV) and SARS coronavirus-2 (SARS-CoV-2). Its product, 25-hydroxycholesterol, activates the ER-localized enzyme ACAT to induce internalization of accessible cholesterol on the plasma membrane and restricts SARS-CoV-2 S protein-mediated fusion which inhibits virus replication (PubMed:32944968, PubMed:33239446). In testis, production of 25-hydroxycholesterol by macrophages plays a role in Leydig cell differentiation (By similarity). Required to restrain inflammation in macrophages: production of 25-hydroxycholesterol protects macrophages from cholesterol overload, thereby preventing mitochondrial DNA release and subsequent activation of the AIM2 inflammasome (By similarity).
Cellular Location	Endoplasmic reticulum membrane {ECO:0000250|UniProtKB:Q9Z0F5}; Multi-pass membrane protein {ECO:0000250|UniProtKB:Q9Z0F5}

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