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DHCR7 Antibody (C-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AW5628

Product Information

Application	IF, WB
Primary Accession	Q9UBM7
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	54489
Isotype	Rabbit IgG
Antigen Source	HUMAN

Additional Information

Gene ID	1717
Antigen Region	437-463
Other Names	7-dehydrocholesterol reductase, 7-DHC reductase, Putative sterol reductase SR-2, Sterol Delta(7)-reductase, DHCR7, D7SR
Dilution	IF~~1:25 WB~~0.25
Target/Specificity	This DHCR7 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 437-463 amino acids from the C-terminal region of human DHCR7.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	DHCR7 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	DHCR7 (HGNC:2860)
Synonyms	D7SR
Function	Oxidoreductase that catalyzes the last step of the cholesterol synthesis

	pathway, which transforms cholesta-5,7-dien- 3beta-ol (7-dehydrocholesterol,7-DHC) into cholesterol by reducing the C7-C8 double bond of its sterol core (PubMed:25637936, PubMed:38297129, PubMed:38297130, PubMed:9465114, PubMed:9634533). Can also metabolize cholesta-5,7,24-trien-3beta-ol (7-dehydrodemosterol, 7-DHD) to desmosterol, which is then metabolized by the Delta(24)-sterol reductase (DHCR24) to cholesterol (By similarity). Modulates ferroptosis (a form of regulated cell death driven by iron-dependent lipid peroxidation) through the metabolic breakdown of the anti- ferroptotic metabolites 7-DHC and 7-DHD which, when accumulated, divert the propagation of peroxyl radical-mediated damage from phospholipid components to its sterol core, protecting plasma and mitochondrial membranes from phospholipid autoxidation (PubMed:38297129, PubMed:38297130).
Cellular Location	Endoplasmic reticulum membrane; Multi-pass membrane protein
Tissue Location	Widely expressed. Most abundant in adrenal gland, liver, testis, and brain.

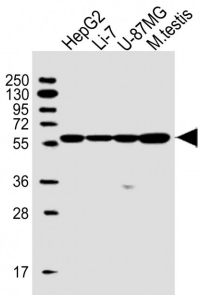
Background

This gene encodes an enzyme that removes the C(7-8) double bond in the B ring of sterols and catalyzes the conversion of 7-dehydrocholesterol to cholesterol. This gene is ubiquitously expressed and its transmembrane protein localizes to the endoplasmic reticulum membrane and nuclear outer membrane. Mutations in this gene cause Smith-Lemli-Opitz syndrome (SLOS); a syndrome that is metabolically characterized by reduced serum cholesterol levels and elevated serum 7-dehydrocholesterol levels and phenotypically characterized by mental retardation, facial dysmorphism, syndactyly of second and third toes, and holoprosencephaly in severe cases to minimal physical abnormalities and near-normal intelligence in mild cases. Alternative splicing results in multiple transcript variants that encode the same protein.

References

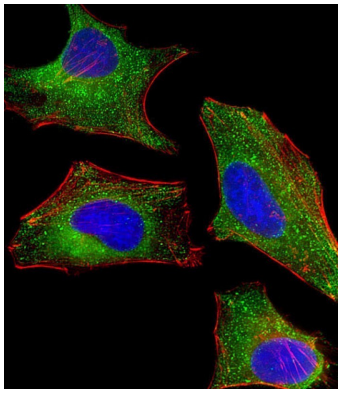
Bailey, S.D., et al. Diabetes Care 33(10):2250-2253(2010)
Koo, G., et al. Am. J. Med. Genet. A 152A (8), 2094-2098 (2010) :
Wang, T.J., et al. Lancet 376(9736):180-188(2010)
Ahn, J., et al. Hum. Mol. Genet. 19(13):2739-2745(2010)
Jugessur, A., et al. PLoS ONE 5 (7), E11493 (2010) :

Images



All lanes : Anti-DHCR7 Antibody (C-term) at 1:2000 dilution Lane 1: HepG2 whole cell lysate Lane 2: Li-7 whole cell lysate Lane 3: U-87MG whole cell lysate Lane 4: mouse testis lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 54 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0. 1% Triton X-100 permeabilized HeLa (human cervical epithelial adenocarcinoma cell line) cells labeling Pdx1 with



AP11452B at 1/25 dilution, followed by Dylight® 488-conjugated goat anti-rabbit IgG (NK179883) secondary antibody at 1/200 dilution (green). Immunofluorescence image showing cytoplasm staining on HeLa cell line. Cytoplasmic actin is detected with Dylight® 554 Phalloidin (PD18466410) at 1/100 dilution (red). The nuclear counter stain is DAPI (blue).

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