

**DHCR7 Antibody (C-term)**  
**Affinity Purified Rabbit Polyclonal Antibody (Pab)**  
**Catalog # AP11452b**

## Specification

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### DHCR7 Antibody (C-term) - Product Information

Application	IF, WB, IHC-P,E
Primary Accession	<a href="#">O9UBM7</a>
Other Accession	<a href="#">NP_001157289.1</a> , <a href="#">NP_001351.2</a>
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Antigen Region	437-463

### DHCR7 Antibody (C-term) - Additional Information

**Gene ID** 1717

#### Other Names

7-dehydrocholesterol reductase, 7-DHC reductase, Putative sterol reductase SR-2, Sterol Delta(7)-reductase, DHCR7, D7SR

#### 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.

#### Dilution

IF~~1:10~50  
WB~~1:2000  
IHC-P~~1:50~100

#### 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.

### DHCR7 Antibody (C-term) - 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-3 $\beta$ -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-3 $\beta$ -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 peroxy 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

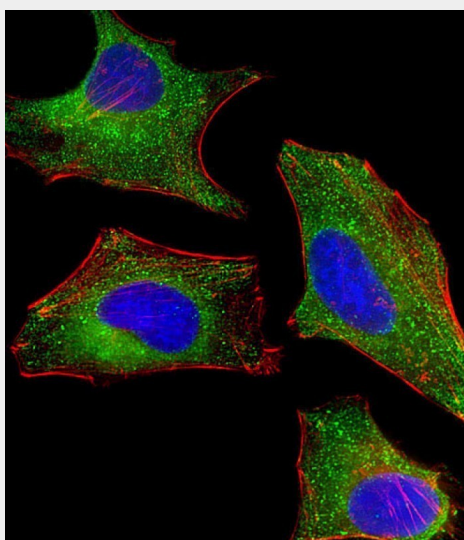
Widely expressed. Most abundant in adrenal gland, liver, testis, and brain.

## DHCR7 Antibody (C-term) - Protocols

Provided below are standard protocols that you may find useful for product applications.

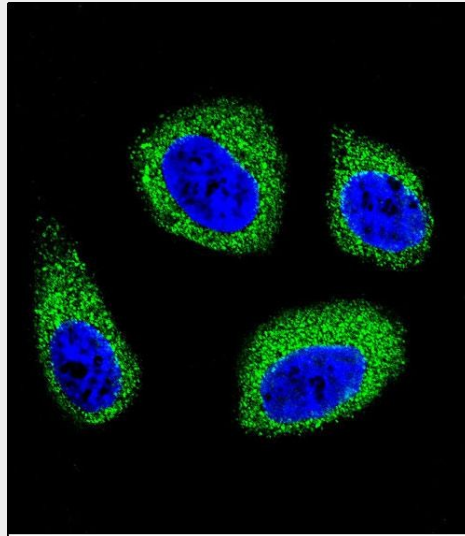
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

## DHCR7 Antibody (C-term) - Images

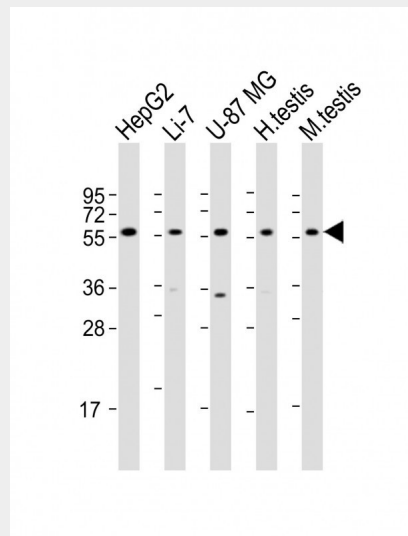


Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized HeLa (human cervical epithelial adenocarcinoma cell line) cells labeling Pdx1 with AP11452B at

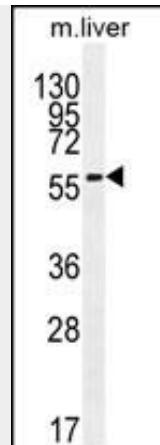
1/25 dilution, followed by Dylight® 488-conjugated goat anti-rabbit IgG (NK179883) secondary antibody at 1/200 dilution (green). Immunofluorescence image showing cytoplasm staining on HeLa cell line. Cytoplasmic actin is detected with Dylight® 554 Phalloidin (PD18466410) at 1/100 dilution (red). The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



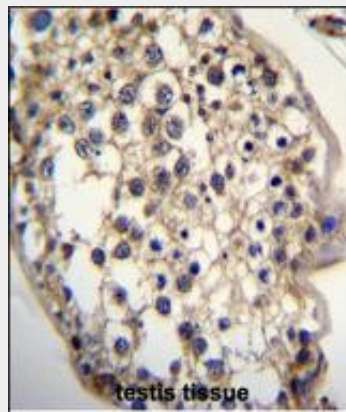
Confocal immunofluorescent analysis of DHCR7 Antibody (C-term)(Cat#AP11452b) with MCF-7 cell followed by Alexa Fluor 488-conjugated goat anti-rabbit IgG (green).DAPI was used to stain the cell nuclear (blue).



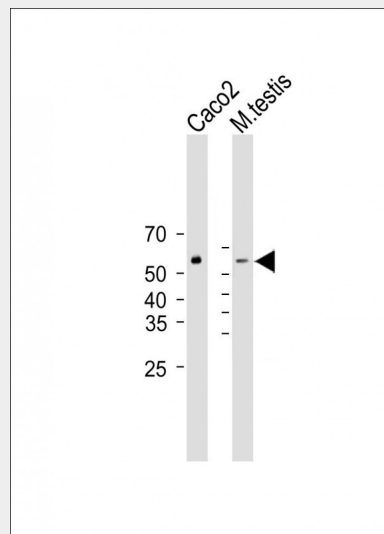
All lanes : Anti-DHCR7 Antibody (C-term) at 1:2000 dilution Lane 1: HepG2 whole cell lysate Lane 2: Li-7 whole cell lysate Lane 3: U-87MG whole cell lysate Lane 4: mouse testis lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution.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



DHCR7 Antibody (C-term) (Cat. #AP11452b) western blot analysis in mouse liver tissue lysates (35ug/lane). This demonstrates the DHCR7 antibody detected the DHCR7 protein (arrow).



DHCR7 Antibody (C-term) (Cat. #AP11452b) immunohistochemistry analysis in formalin fixed and paraffin embedded human testis tissue followed by peroxidase conjugation of the secondary antibody and DAB staining. This data demonstrates the use of DHCR7 Antibody (C-term) for immunohistochemistry. Clinical relevance has not been evaluated.



All lanes : Anti-DHCR7 Antibody (C-term) at 1:2000 dilution Lane 1: Caco2 whole cell lysate Lane 2: mouse testis lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ASP1615) at 1/15000 dilution. Observed band size : 55kDa Blocking/Dilution buffer: 5% NFDM/TBST.

### **DHCR7 Antibody (C-term) - 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.

### **DHCR7 Antibody (C-term) - 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) :

### **DHCR7 Antibody (C-term) - Citations**

- [Astrocytic ApoE reprograms neuronal cholesterol metabolism and histone-acetylation-mediated memory](#)