

**APC270Hu01 100µg**  
**Active 7-Dehydrocholesterol Reductase (DHCR7)**  
**Organism Species: *Homo sapiens* (Human)**  
***Instruction manual***

FOR RESEARCH USE ONLY  
NOT FOR USE IN CLINICAL DIAGNOSTIC PROCEDURES

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13th Edition (Revised in Aug, 2023)

## **[ PROPERTIES ]**

**Source:** Prokaryotic expression.

**Host:** *E. coli*

**Residues:** Cys61~Leu153

**Tags:** N-terminal His and GST Tag

**Purity:** >95%

**Endotoxin Level:** <1.0EU per 1µg (determined by the LAL method).

**Buffer Formulation:** PBS, pH7.4, containing 0.01% SKL, 5%Trehalose .

**Original Concentration:** 200µg/mL

**Applications:** Cell culture; Activity Assays.

(May be suitable for use in other assays to be determined by the end user.)

**Predicted isoelectric point:** 7.9

**Predicted Molecular Mass:** 40.2kDa

**Accurate Molecular Mass:** 41kDa as determined by SDS-PAGE reducing conditions.

## **[ USAGE ]**

Reconstitute in 10mM PBS (pH7.4) to a concentration of 0.1-1.0 mg/mL. Do not vortex.

## **[ STORAGE AND STABILITY ]**

**Storage:** Avoid repeated freeze/thaw cycles.

Store at 2-8°C for one month.

Aliquot and store at -80°C for 12 months.

**Stability Test:** The thermal stability is described by the loss rate. The loss rate was determined by accelerated thermal degradation test, that is, incubate the protein at 37°C for 48h, and no obvious degradation and precipitation were observed. The loss rate is less than 5% within the expiration date under appropriate storage condition.

## **[ SEQUENCE ]**

```
CDQYSCALTG PVVDIVTGH A RLSDIWAKTP PITRCAAQLY  
TLWVTFQVLL YTSLPDFCHK FLPGYVGGIQ EGAVTPAGVV NKYQINGLQA  
WLL
```

## **[ ACTIVITY ]**

DHCR7 (7-dehydrocholesterol reductase) is a rate-limiting enzyme in cholesterol synthesis, which is mainly involved in the conversion of 7-dehydrocholesterol (7-DHC) to cholesterol. In the cholesterol biosynthetic pathway, this protease can reduce the C7-C8 double bond of cholesta-5,7-dien-3beta-ol (7-dehydrocholesterol/7-DHC) and cholesta-5,7,24-trien-3beta-ol, two intermediates in that pathway. In the absence of functional DHCR7, accumulation of 7DHC and a lack of cholesterol production leads to the devastating developmental disorder, Smith-Lemli-Opitz syndrome. Cholesterol 25-hydroxylase (CH25H) can also repress cholesterol biosynthetic enzymes. A functional ELISA assay was conducted to detect the interaction of recombinant human DHCR7 and recombinant human CH25H. Briefly, biotin-linked DHCR7 were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100 ul were then transferred to CH25H-coated microtiter wells and incubated for 1h at 37°C. Wells were washed with PBST 3 times and incubation with Streptavidin-HRP for 30 min, then wells were aspirated and washed 5 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37°C. Finally, add 50 µl stop solution to the wells and read at 450 nm immediately. The binding activity of recombinant human



**Figure 3. SDS-PAGE****Sample: Active recombinant DHCR7, Human****[ IMPORTANT NOTE ]**

The kit is designed for research use only, we will not be responsible for any issue if the kit was used in clinical diagnostic or any other procedures.