

**APB742Mi01 100µg**

**Active UDP Glucose Ceramide Glucosyltransferase (UGCG)**

**Organism Species: Homo sapiens (Human)**

**Mus musculus (Mouse)**

**Rattus norvegicus (Rat)**

***Instruction manual***

FOR IN VITRO USE AND RESEARCH USE ONLY

NOT FOR USE IN CLINICAL DIAGNOSTIC PROCEDURES

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1st Edition (Apr, 2016)

## **[ PROPERTIES ]**

**Source:** Prokaryotic expression.

**Host:** *E. coli*

**Residues:** Lys39~Leu171

**Tags:** N-terminal His-tag

**Purity:** >95%

**Buffer Formulation:** 20mM Tris, 150mM NaCl, pH8.0, containing 0.05% sarcosyl and 5% trehalose.

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

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

**Predicted isoelectric point:** 6.7

**Predicted Molecular Mass:** 16.1kDa

**Accurate Molecular Mass:** 16kDa as determined by SDS-PAGE reducing conditions.

Note: 98% cross-reactivity of UGCG was observed among human, mouse and rat.

## **[ USAGE ]**

Reconstitute in 20mM Tris, 150mM NaCl (pH8.0) 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.

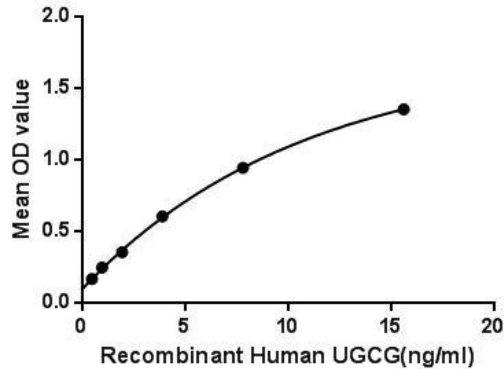
## **[ SEQUENCE ]**

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KK ATDKQPYSKL  
PGVSLKPLK GVDPNLINL ETFFELDYPK YEVLLCVQDH DDPAIDVCKK  
LLGKYPNVDA RFIGGKKVG INPKINLMP GYEVAKYDLI WICDSGIRVI  
PDTLDMVNQ MTEKVGLVHG L
```

## **[ ACTIVITY ]**

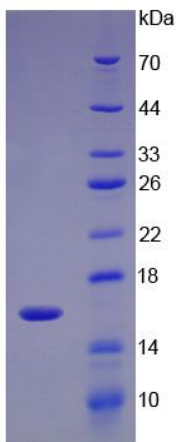
UDP Glucose Ceramide Glucosyltransferase (UGCG) is an enzyme which catalyzes the first glycosylation step in glycosphingolipid biosynthesis. It belongs to the glucosyltransferase 2 family. UGCG is widely expressed and transcription is upregulated during keratinocyte differentiation. Besides, Large Multifunctional Peptidase 2 (LMP2) has been identified as an interactor of UGCG, thus a binding ELISA assay was conducted to detect the interaction of recombinant human UGCG and recombinant human LMP2. Briefly, UGCG were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100uL were then transferred to LMP2-coated microtiter wells and incubated for 2h at 37°C. Wells were washed with PBST and incubated for 1h with anti-UGCG pAb, then aspirated and washed 3 times. After incubation with HRP labelled secondary antibody, wells were aspirated and washed 3 times. With the addition of substrate solution, wells were

incubated 15-25 minutes at 37°C. Finally, add 50µL stop solution to the wells and read at 450nm immediately. The binding activity of UGCG and LMP2 was shown in Figure 1, and this effect was in a dose dependent manner.



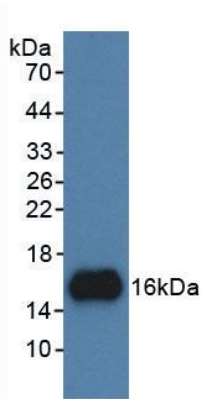
**Figure 1. The binding activity of UGCG with LMP2.**

## **[ IDENTIFICATION ]**



**Figure 2. SDS-PAGE**

**Sample: Active recombinant UGCG, Human**



**Figure 3. Western Blot**

**Sample: Recombinant UGCG, Human;**

**Antibody: Rabbit Anti-Human UGCG Ab (PAB742Mi01)**