

APE257Hu02 100µg

Active Procollagen Lysine-2-Oxoglutarate-5-Dioxygenase 2 (PLOD2)

Organism Species: *Homo sapiens* (Human)

Instruction manual

FOR RESEARCH USE ONLY

NOT FOR USE IN CLINICAL DIAGNOSTIC PROCEDURES

13th Edition (Revised in Aug, 2023)

[PROPERTIES]

Source: Prokaryotic expression.

Host: *E. coli*

Residues: Lys644~Pro737

Tags: N-terminal His and GST Tag

Purity: >90%

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

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

Original Concentration: 200µg/mL

Applications: Activity Assays.

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

Predicted isoelectric point: 9.6

Predicted Molecular Mass: 40.6kDa

Accurate Molecular Mass: 40kDa 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]

KG FALLN
FVVKYSPERQ RSLRPHHDAS TFTINIALNN VGEDFQGGGC KFLRYNCSIE
SPRKGWSFMH PGRLTHLHEG LPVKNTRYI AVSFIDP

[ACTIVITY]

Procollagen Lysine-2-Oxoglutarate-5-Dioxygenase 2 (PLOD2), also known as lysyl hydroxylase 2 (LH2), is a pivotal enzyme in collagen biosynthesis. Localized to the endoplasmic reticulum, PLOD2 catalyzes the hydroxylation of lysine residues within procollagen telopeptides—an essential post-translational modification that enables the formation of stable collagen cross-links. These cross-links are critical for maintaining the structural integrity and mechanical stability of connective tissues. Dysregulation of PLOD2 has been implicated in pathological conditions such as Bruck syndrome (a connective tissue disorder characterized by bone fragility) and various cancers, where it contributes to increased tissue stiffness and enhanced tumor cell migration. Notably, PLOD2 forms a direct functional interaction with FK506 Binding Protein 10 (FKBP10), which promotes PLOD2 dimerization—a key mechanism that enhances its enzymatic activity and ensures efficient collagen maturation. Thus a functional binding ELISA assay was conducted to detect the interaction of recombinant human PLOD2 and recombinant mouse FKBP10. Briefly, biotin-linked PLOD2 were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100µl were then transferred to FKBP10-coated microtiter wells and incubated for 1h at 37°C. Wells were washed with PBST 3 times and incubation with Streptavidin-HRP for 30min, then wells were aspirated and washed 5 times. With the addition of

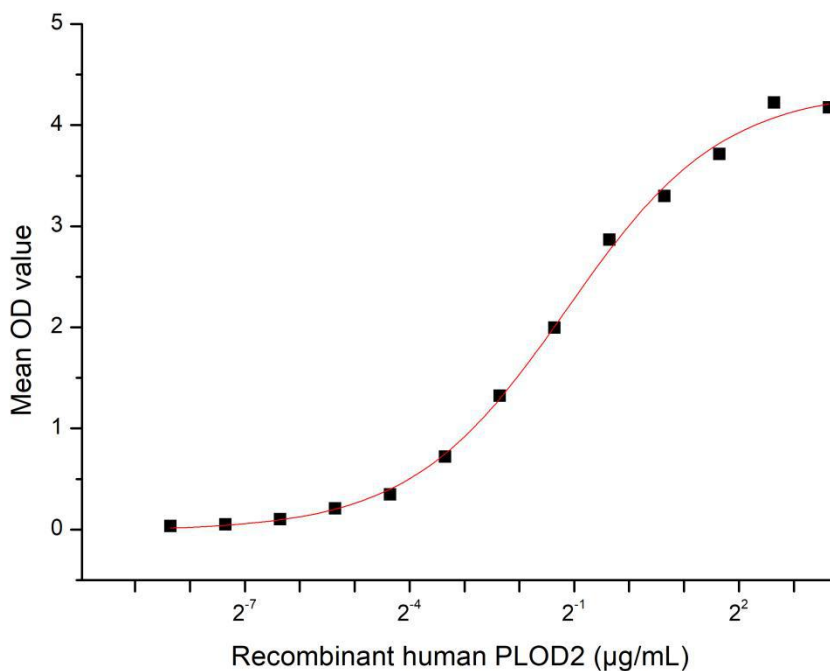


Figure 1. The binding activity of recombinant human PLOD2 and recombinant mouse FKBP10

[IDENTIFICATION]

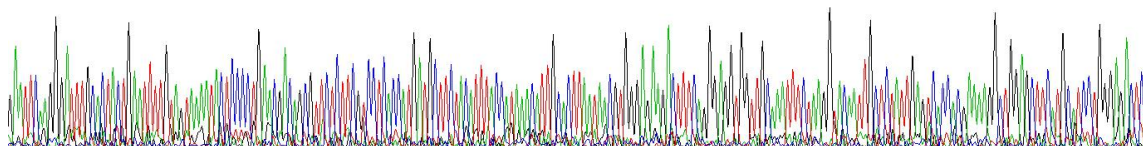


Figure 2. Gene Sequencing (extract)

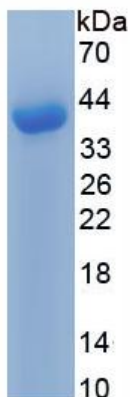


Figure 3. SDS-PAGE

Sample: Active recombinant PLOD2, 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.