

APA108Hu62 100µg

Active Osteoprotegerin (OPG)

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: Eukaryotic expression.

Host: 293F cell

Residues: Glu22~Leu401

Tags: N-terminal His-tag

Purity: >80%

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

Buffer Formulation: PBS, pH7.4, containing 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: 8.4

Predicted Molecular Mass: 45.2kDa

Accurate Molecular Mass: 60kDa as determined by SDS-PAGE reducing conditions.

Phenomenon explanation:

The possible reasons that the actual band size differs from the predicted are as follows:

1. Splice variants: Alternative splicing may create different sized proteins from the same gene.
2. Relative charge: The composition of amino acids may affects the charge of the protein.
3. Post-translational modification: Phosphorylation, glycosylation, methylation etc.
4. Post-translation cleavage: Many proteins are synthesized as pro-proteins, and then cleaved to give the active form.
5. Polymerization of the target protein: Dimerization, multimerization etc.

[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]

ETFPKYLHYDEETSHQLLCDKCPPGYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECLYCS
PVCKELQYVVKQECNRTHNRVCECKEGRYLIEFCLKHRSCPPGFGVVQAGTPERNTVCKRCPD
GFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTLC EEAFFRFAVP
TKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFLKLWKHQNKDQDIVKKIQQDIDL
CENS VQRHIGHANLTFEQLRSLMESLP GKKGVAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDT
LKGLMHALKH SKTYHFPKTVTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL

[ACTIVITY]

Osteoprotegerin (OPG) is a glycoprotein belonging to the tumor necrosis factor receptor superfamily. Its key function is regulating bone metabolism: it acts as a decoy receptor for receptor activator of nuclear factor- κ B ligand (RANKL), blocking RANKL's binding to RANK on osteoclasts. This inhibition prevents osteoclast differentiation and activation, thereby reducing bone resorption and maintaining bone homeostasis. It has been demonstrated that treatment with OPG can induce a significant increase in cells. To test the effect of OPG on cell proliferation, U2OS cells were seeded into triplicate wells of 96-well plates and allowed to attach, replaced with various concentrations of recombinant human

OPG. After incubated for 72h, cells were observed by inverted microscope and cell proliferation was measured by Cell Counting Kit-8 (CCK-8). Briefly, 10 μ l of CCK-8 solution was added to each well of the plate, then the absorbance at 450 nm was measured using a microplate reader after incubating the plate for 1-4 hours at 37 °C . Cell viability was assessed by CCK-8 assay after incubation with recombinant human OPG for 72h. The result was shown in Figure 1. It was obvious that OPG significantly increased cell viability of U2OS cells. The ED50 of recombinant human OPG is 0.945 μ g/ml.

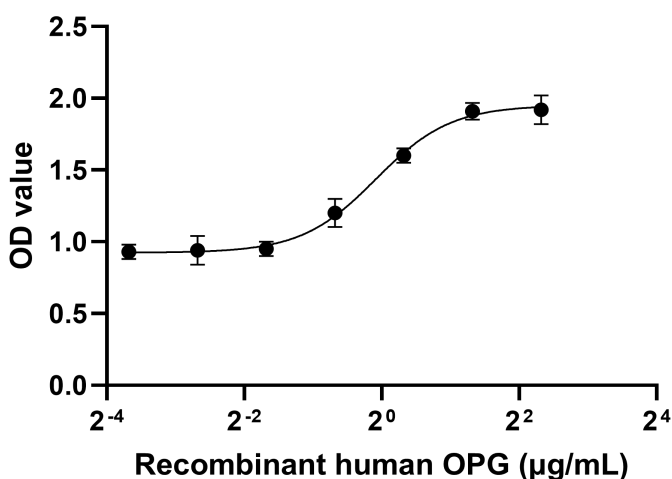


Figure.1 The dose-effect curve of recombinant human OPG on U2OS cells

[illegible]

Figure 2. Gene Sequencing (extract)

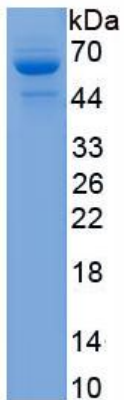


Figure 3. SDS-PAGE

Sample: Active recombinant OPG, 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.