

APH492Ra61 100µg

Active Osteocrin (OSTN)

Organism Species: *Rattus norvegicus (Rat)*

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: Phe26~Gly132

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: Activity Assays.

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

Predicted isoelectric point: 9.5

Predicted Molecular Mass: 13.4kDa

Accurate Molecular Mass: 16-22kDa 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]

FSVDLASEASEFGAESLQSPPTTREEKSATELAAKLLLLDDLVSLENDVFETKKKRSFSGFGSPLDR
LSAGSVEHRGKQRRVVDHKKRFIPMDRIGRNRLSSRG

[ACTIVITY]

Osteocrin (OSTN) is a secreted protein predominantly expressed in bone and muscle tissues. As an endogenous ligand for natriuretic peptide receptors, it plays a crucial role in regulating bone growth, metabolism, and musculoskeletal development. Structurally, OSTN shares similarities with natriuretic peptides and modulates cardiovascular and skeletal homeostasis through competitive binding. Notably, it binds with high affinity to Natriuretic Peptide Receptor 3 (NPR3). This binding interaction inhibits the degradation of other natriuretic peptides, thereby enhancing their bioavailability and prolonging their physiological effects on blood pressure regulation and cardiovascular protection. To detect the activity of recombinant OSTN a functional ELISA assay was performed to evaluate the interaction between recombinant rat OSTN and recombinant rat NPR3. Briefly, OSTN was diluted serially in PBS with 0.01% BSA (pH 7.4). Duplicate samples of

100 μ l were then transferred to NPR3-coated microtiter wells and incubated for 1h at 37 °C . Wells were washed with PBST and incubated for 1h with anti-OSTN pAb, then aspirated and washed 3 times. After incubation with HRP labelled secondary antibody for 1h at 37 °C , 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 μ L stop solution to the wells and read at 450/630nm immediately. The binding activity of recombinant rat OSTN and recombinant rat NPR3 was shown in Figure 1, the EC₅₀ for this effect is 0.10 μ g/mL.

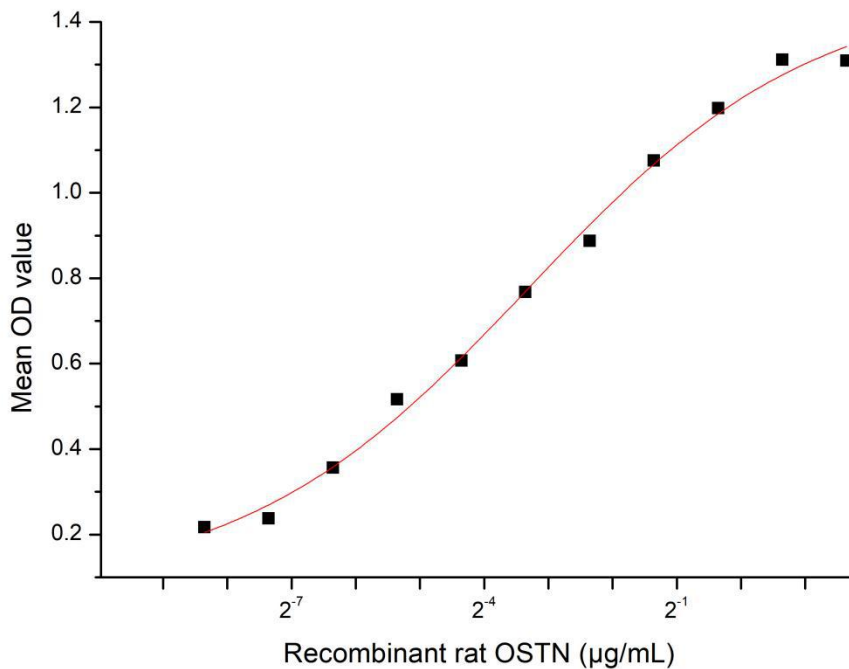


Figure 1. The binding activity of recombinant rat OSTN and recombinant rat NPR3

[IDENTIFICATION]

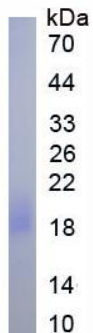


Figure 2. SDS-PAGE

Sample: Active recombinant OSTN, Rat

[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.