APA653Hu01 100μg
Active Bone Morphogenetic Protein 1 (BMP1)
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: Glu610~Ser843
Tags: N-terminal His and GST Tag
Purity: >80%
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: 6.4
Predicted Molecular Mass: 56.5kDa
Accurate Molecular Mass: 56kDa 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 2-8ºC for one month.
Aliquot and store at -80ºC 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 37ºC 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]

E YPPNKNCIWQ LVAPTQYRIS LQFDFFETEG NDVCKYDFVE
VRSGLTADSK LHGKFCGSEK PEVITSQYNN MRVEFKSDNT VSKKGFKAHF
FSDKDECSKD NGGCQQDCVN TFGSYECQCR SGFVLHDNKH DCKEAGCDHK
VTSTSGTITS PNWPDKYPSK KECTWAISST PGHRVKLTFM EMDIESQPEC
AYDHLEVFDG RDAKAPVLGR FCGSKKPEPV LATGSRMFLR FYS

[ACTIVITY]

Bone Morphogenetic Protein 1 (BMP1) is a metalloprotease that plays a crucial role in extracellular matrix (ECM) remodeling and tissue development. It processes procollagens and other ECM precursors, contributing to bone formation, wound healing, and organogenesis. Unlike other BMP family members, BMP1 lacks osteoinductive activity but is essential for activating TGF-β superfamily proteins, including growth factors involved in skeletal and connective tissue regulation. BMP1 cleaves and inactivates Myostatin (MSTN), a negative regulator of muscle growth, thereby indirectly promoting muscle hypertrophy by reducing MSTN-mediated inhibition of myogenesis.Thus a functional ELISA assay was conducted to detect the interaction of recombinant human BMP1 and recombinant human MSTN. Briefly, BMP1 was diluted serially in PBS with 0.01% BSA (pH 7.4). Duplicate samples of 100 μl were then transferred to MSTN-coated microtiter wells and incubated for 1h at 37℃. Wells were washed with PBST and incubated for 1h with anti-BMP1 pAb, then aspirated and washed 3 times. After incubation with HRP labelled secondary antibody for 1h at 37℃, wells were aspirated and washed 5 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37℃. Finally, add 50 μL stop solution to the wells and read at 450/630nm immediately. The binding activity of recombinant human BMP1 and

recombinant human MSTN was shown in Figure 1, the EC50 for this effect is 0.014ug/mL.

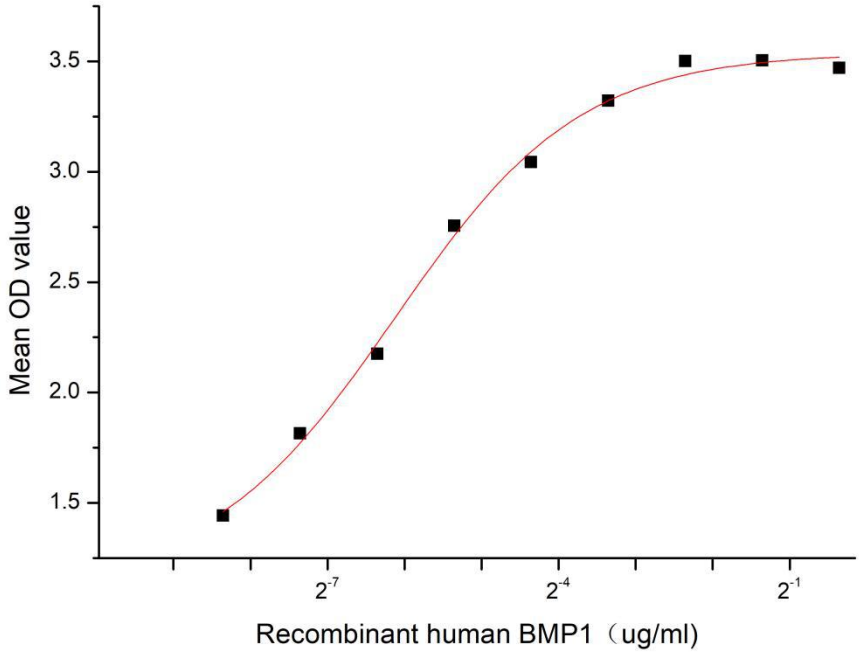

Figure 1. The binding activity of recombinant human BMP1 and recombinant human MSTN

[IDENTIFICATION]

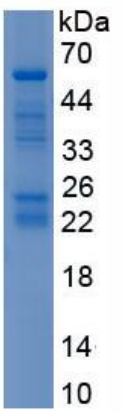

Figure 2. SDS-PAGE

Sample: Active recombinant BMP1, 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.