APA799Mu01 100μg
Active Bone Morphogenetic Protein 7 (BMP7)
Organism Species: Mus musculus (Mouse)
Instruction manual

FOR IN VITRO USE AND RESEARCH USE ONLY
NOT FOR USE IN CLINICAL DIAGNOSTIC PROCEDURES

1st Edition (Apr, 2016)

[PROPERTIES]

Source: Prokaryotic expression.
Host: *E. coli*
Residues: Ser292~His430
Tags: N-terminal His-tag
Purity: >98%
Endotoxin Level: <1.0EU per 1μg (determined by the LAL method).
Buffer Formulation: 20mM Tris, 150mM NaCl, pH8.0, containing 1mM EDTA, 1mM DTT, 0.01% sarcosyl, 5% trehalose, and Proclin300.
Applications: Cell culture; Activity Assays; In vivo assays.
(May be suitable for use in other assays to be determined by the end user.)
Predicted isoelectric point: 8.5
Predicted Molecular Mass: 16.9kDa
Accurate Molecular Mass: 16kDa as determined by SDS-PAGE reducing conditions.

[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^{o}C for one month.
Aliquot and store at -80^{o}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 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]

STGGKQRSQ
NRSKTPKNQE ALRMASVAEN SSSDQRQACK KHELYVSFRD LGWQDWIIAP
EGYAAYYCEG ECAFPLNSYM NATNHAIVQT LVHFINPDTV PKPCCAPTQL
NAISVLYFDD SSNVILKKYR NMVVRACGCH

[ACTIVITY]

BMP7 (Bone morphogenetic protein 7), which belongs to the TGF-β superfamily, is a signaling molecule with the ability to promote bone formation. BMP7 has also been implicated in various types of cancer, including breast cancer. It has been reported that BMP7 treatment induced cell growth promotion of MDA-MB-231 breast cancer line. To test the effect of BMP7 on cell proliferation, MDA-MB-231 cells were seeded into triplicate wells of 96-well plates at a density of 2,000 cells/well and allowed to attach overnight, then the medium was replaced with serum-free standard DMEM prior to the addition of various concentrations of BMP7. After incubated for 72h, cells were observed by inverted microscope and cell proliferation was measured by Cell Counting Kit-8 (CCK-8). Briefly, 10μL of CCK-8 solution was added to each well of the plate, then the absorbance at 450nm was measured using a microplate reader after incubating the plate for 1-4 hours at 37°C.

A B

Figure 1. Cell proliferation of MDA-MB-231 cells after stimulated with BMP7.

(A) MCF-7 cells cultured in DMEM, stimulated with 10ng/mL BMP7 for 72h;

(B) Unstimulated MDA-MB-231 cells cultured in DMEM for 72h.

The dose-effect curve of BMP7 was shown in Figure 2. It was obvious that BMP7 significantly promoted cell proliferation of MDA-MB-231 cells. The ED50 for this effect is typically 3.483 to 9.017 ng/mL.

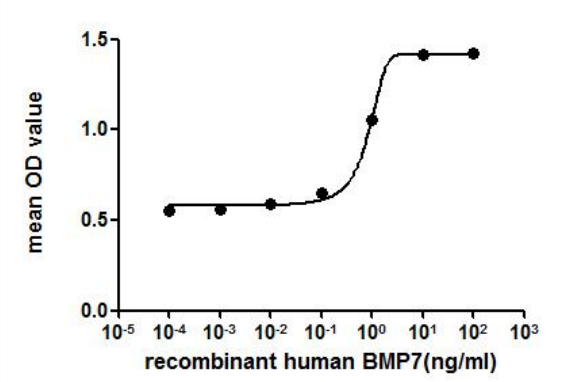

Figure 2. The dose-effect curve of BMP7 on MDA-MB-231 cells

[IDENTIFICATION]

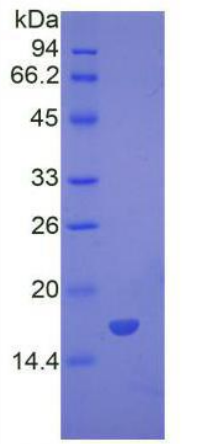

Figure 3. SDS-PAGE

Sample: Active recombinant BMP7, Mouse

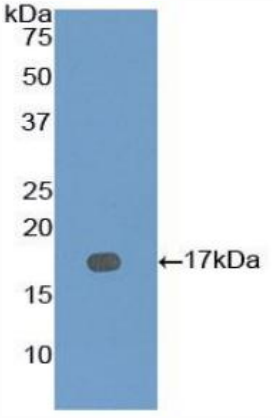

Figure 4. Western Blot

Sample: Recombinant BMP7, Mouse;

Antibody: Rabbit Anti-Mouse BMP7 Ab (PAA799Mu01)