

# BMP-7 (6E5D12): sc-517294

## BACKGROUND

Bone morphogenic proteins (BMPs) are members of the TGF $\beta$  superfamily. BMPs are involved in the induction of cartilage and bone formation. *In vivo* studies have shown that BMP-2 (also designated BMP-2A) and BMP-3 can independently induce cartilage formation. Smad3 association with the TGF $\beta$  receptor complex and Smad1 translocation to the nucleus are observed after the addition of BMP-4 (also designated BMP-2B), suggesting that BMP-4 may play a role in activation of the Smad pathway. BMP-5, BMP-6 and BMP-7 all share high sequence homology with BMP-2, indicating that they each may be able to induce cartilage formation. BMP-8 (also designated OP-2) is thought to be involved in early development, as detectable expression has not been found in adult organs.

## CHROMOSOMAL LOCATION

Genetic locus: BMP7 (human) mapping to 20q13.31.

## SOURCE

BMP-7 (6E5D12) is a mouse monoclonal antibody raised against a recombinant protein corresponding to amino acids 239-431 of BMP-7 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

BMP-7 (6E5D12) is available conjugated to agarose (sc-517294 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-517294 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-517294 PE), fluorescein (sc-517294 FITC), Alexa Fluor<sup>®</sup> 488 (sc-517294 AF488), Alexa Fluor<sup>®</sup> 546 (sc-517294 AF546), Alexa Fluor<sup>®</sup> 594 (sc-517294 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-517294 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-517294 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-517294 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## APPLICATIONS

BMP-7 (6E5D12) is recommended for detection of BMP-7 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), flow cytometry (1  $\mu$ g per 1 x 10<sup>6</sup> cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for BMP-7 siRNA (h): sc-39748, BMP-7 shRNA Plasmid (h): sc-39748-SH and BMP-7 shRNA (h) Lentiviral Particles: sc-39748-V.

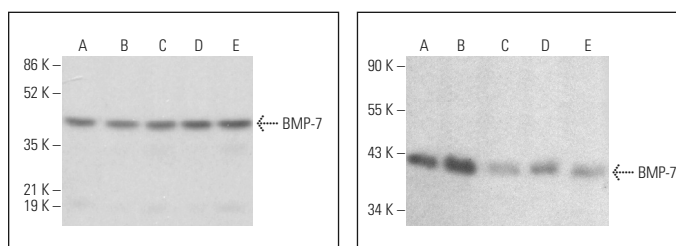
Molecular Weight of BMP-7: 55 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, MCF7 cell lysate: sc-2206 or A549 cell lysate: sc-2413.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## DATA



BMP-7 (6E5D12): sc-517294. Western blot analysis of BMP-7 expression in MIA PaCa-2 (A), U-698-M (B), MCF7 (C), Daudi (D) and HL-60 (E) whole cell lysates.

BMP-7 (6E5D12): sc-517294. Western blot analysis of BMP-7 expression in MIA PaCa-2 (A), NTERA-2 cl.D1 (B), A549 (C), Jurkat (D) and HeLa (E) whole cell lysates.

## SELECT PRODUCT CITATIONS

1. Tóth, F., et al. 2021. Effect of inducible BMP-7 expression on the osteogenic differentiation of human dental pulp stem cells. *Int. J. Mol. Sci.* 22: 6182.
2. Wang, T.C., et al. 2021. Bone morphogenetic protein 7 effect on human glioblastoma cell transmigration and migration. *Life* 11: 708.
3. Li, Z., et al. 2021. Graphene oxide-functionalized nanocomposites promote osteogenesis of human mesenchymal stem cells via enhancement of BMP-SMAD1/5 signaling pathway. *Biomaterials* 277: 121082.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

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