SANTA CRUZ BIOTECHNOLOGY, INC.

BMP-7 (6E5D12): sc-517294

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Bone morphogenic proteins (BMPs) are members of the TGFβ 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 TGFβ 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 µg IgG_1 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 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-517294 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-517294 PE), fluorescein (sc-517294 FITC), Alexa Fluor® 488 (sc-517294 AF488), Alexa Fluor® 546 (sc-517294 AF546), Alexa Fluor® 594 (sc-517294 AF594) or Alexa Fluor® 647 (sc-517294 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-517294 AF680) or Alexa Fluor® 790 (sc-517294 AF790), 200 µg/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 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), flow cytometry (1 µg per 1 x 10^6 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.

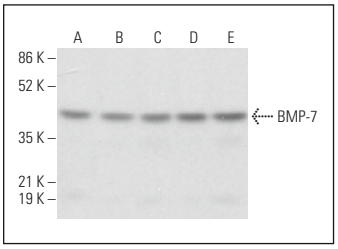
Molecular Weight of BMP-7: 55 kDa.

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

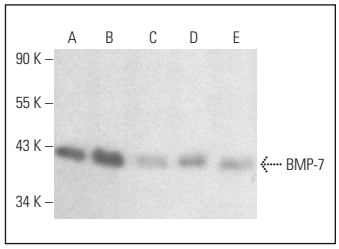
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® 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-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® 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 for detailed protocols and support products.