SANTA CRUZ BIOTECHNOLOGY, INC.

BMPR-IA (C-7): sc-518037

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Members of the transforming growth factor b superfamily bind to a pair of transmembrane proteins, known as receptor types I and II, which contain serine/threonine kinases and associate to form a signaling complex. Two type I receptors have been characterized, BMPR-IA (also designated SKR5, ALK-3, and BRK-1) and BMPR-IB (also designated ALK-6 and SKR 6), that bind to bone morphogenetic proteins (BMP)-2, BMP-4, and osteogenic protein (OP)-1 (also designated BMP-7). BMPR-IA and BMPR-IB are both expressed in human glioma cell lines. The type II receptor, BMPR-II, efficiently binds to OP-1 and BMP-2 and weakly binds BMP-4, and it is widely expressed in different tissues, including brain. The BMP receptor family members are thought to mediate distinct effects on gene expression, cell dif-ferentiation, and morphogenesis in a dose dependent fashion.

REFERENCES

1. ten Dijke, P., et al. 1994. Identification of type I receptors for osteogenic protein-1 and bone morphogenetic protein-4. J. Biol. Chem. 269: 16985-16988.
2. Rosenzweig, B.L., et al. 1995. Cloning and characterization of a human type II receptor for bone morphogenetic proteins. Proc. Natl. Acad. Sci. USA 92: 7632-7636.
3. Liu, F., et al. 1995. Human type II receptor for bone morphogenetic proteins (BMPs): extension of the two-kinase receptor model to the BMPs. Mol. Cell. Biol. 15: 3479-3486.

CHROMOSOMAL LOCATION

Genetic locus: BMPR1A (human) mapping to 10q23.2.

SOURCE

BMPR-IA (C-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 41-64 near the N-terminus of BMPR-IA of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

BMPR-IA (C-7) is available conjugated to agarose (sc-518037 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-518037 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-518037 PE), fluorescein (sc-518037 FITC), Alexa Fluor® 488 (sc-518037 AF488), Alexa Fluor® 546 (sc-518037 AF546), Alexa Fluor® 594 (sc-518037 AF594) or Alexa Fluor® 647 (sc-518037 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-518037 AF680) or Alexa Fluor® 790 (sc-518037 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

BMPR-IA (C-7) is recommended for detection of BMPR-IA of human origin by Western Blotting (starting dilution 1:100, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for BMPR-IA siRNA (h): sc-40216, BMPR-IA shRNA Plasmid (h): sc-40216-SH and BMPR-IA shRNA (h) Lentiviral Particles: sc-40216-V.

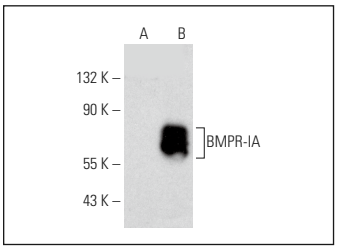
Molecular Weight of BMPR-IA: 66 kDa.

Positive Controls: human BMPR-IA transfected HEK293T whole cell lysate.

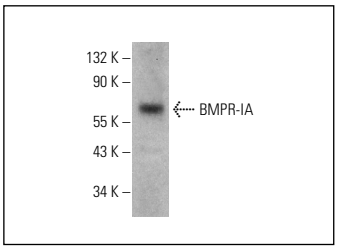
RECOMMENDED SUPPORT REAGENTS

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



BMPR-IA (C-7): sc-518037. Western blot analysis of BMPR-IA expression in non-transfected (**A**) and human BMPR-IA transfected (**B**) HEK293T whole cell lysates.



BMPR-IA (C-7): sc-518037. Western blot analysis of BMPR-IA expression in Neuro-2A whole cell lysate. Detection reagent used: m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM.

SELECT PRODUCT CITATIONS

1. Liu, W., et al. 2020. Human osteoarthritis cartilage-derived stromal cells activate joint degeneration through TGFβ lateral signaling. FASEB J. 34: 16552-16566.
2. Tomita, S., et al. 2024. The Cavin-1/caveolin-1 interaction attenuates BMP/Smad signaling in pulmonary hypertension by interfering with BMPR2/caveolin-1 binding. Commun. Biol. 7: 40.

RESEARCH USE

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