SANTA CRUZ BIOTECHNOLOGY, INC.

BMPR-IA (4B7B2): sc-293175

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 differentiation, 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.
4. Yamada, N., et al. 1996. Bone morphogenetic protein type IB receptor is progressively expressed in malignant glioma tumours. Br. J. Cancer 73: 624-629.
5. Soderstrom, S., et al. 1996. Expression of serine/threonine kinase receptors including the bone morphogenetic factor type II receptor in the developing and adult rat brain. Cell Tissue Res. 286: 269-279.
6. Yonemori, K., et al. 1997. Bone morphogenetic protein receptors and activin receptors are highly expressed in ossified ligament tissues of patients with ossification of the posterior longitudinal ligament. Am. J. Pathol. 150: 1335-1347.

CHROMOSOMAL LOCATION

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

SOURCE

BMPR-IA (4B7B2) is a mouse monoclonal antibody raised against a partial recombinant protein corresponding to amino acids 179-378 of BMPR-IA of human origin.

PRODUCT

Each vial contains 50 µg IgG_1 in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

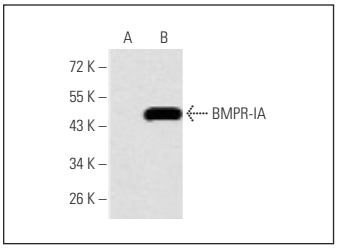
BMPR-IA (4B7B2) is recommended for detection of BMPR-IA of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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 BMPR-IA siRNA (h): sc-40216, BMPR-IA shRNA Plasmid (h): sc-40216-SH and BMPR-IA shRNA (h) Lentiviral Particles: sc-40216-V.

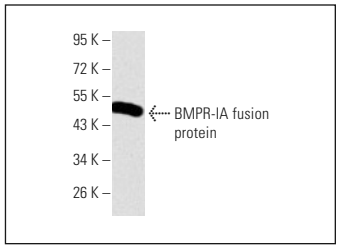
Molecular Weight of BMPR-IA: 66 kDa.

Positive Controls: human BMPR-IA (179-378)-hIgGFc transfected HEK293 whole cell lysate.

DATA



BMPR-IA (4B7B2): sc-293175. Western blot analysis of BMPR-IA expression in non-transfected (**A**) and human BMPR-IA (179-378)-hIgGFc transfected (**B**) HEK293 whole cell lysates.



BMPR-IA (4B7B2): sc-293175. Western blot analysis of human recombinant BMPR-IA (179-378) fusion protein.

SELECT PRODUCT CITATIONS

1. Luo, B., et al. 2018. The interplay of BMP4 and IL-7 regulates the apoptosis of intestinal intraepithelial lymphocytes under conditions of ischemia/reperfusion. Int. J. Mol. Med. 41: 2640-2650.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.