SANTA CRUZ BIOTECHNOLOGY, INC.

BMPR-II (G-24): sc-130704

BACKGROUND

Members of the transforming growth factor β 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.

CHROMOSOMAL LOCATION

Genetic locus: BMPR2 (human) mapping to 2q33.1; Bmpr2 (mouse) mapping to 1 C1.3.

SOURCE

BMPR-II (G-24) is a purified rabbit polyclonal antibody raised against a peptide mapping near the N-terminus of BMPR-II of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

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

APPLICATIONS

BMPR-II (G-24) is recommended for detection of BMPR-II of mouse and 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for BMPR-II siRNA (h): sc-40220, BMPR-II siRNA (m): sc-40221, BMPR-II shRNA Plasmid (h): sc-40220-SH, BMPR-II shRNA Plasmid (m): sc-40221-SH, BMPR-II shRNA (h) Lentiviral Particles: sc-40220-V and BMPR-II shRNA (m) Lentiviral Particles: sc-40221-V.

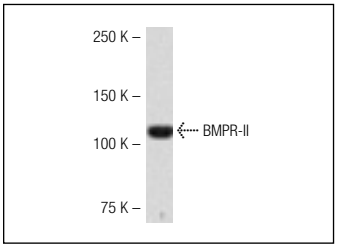
Molecular Weight of BMPR-II: 115 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, IMR-32 cell lysate: sc-2409 or mouse heart extract: sc-2254.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



BMPR-II (G-24): sc-130704. Western blot analysis of BMPR-II expression in mouse heart tissue extract.

SELECT PRODUCT CITATIONS

1. Wahdan-Alaswad, R.S., et al. 2012. Inhibition of mTORC1 kinase activates Smads 1 and 5 but not Smad8 in human prostate cancer cells, mediating cytostatic response to rapamycin. Mol. Cancer Res. 10: 821-833.