

BMPR-II (E-1): sc-393304

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.

CHROMOSOMAL LOCATION

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

SOURCE

BMPR-II (E-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 61-82 within an extracellular domain of BMPR-II of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

BMPR-II (E-1) is available conjugated to agarose (sc-393304 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393304 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393304 PE), fluorescein (sc-393304 FITC), Alexa Fluor[®] 488 (sc-393304 AF488), Alexa Fluor[®] 546 (sc-393304 AF546), Alexa Fluor[®] 594 (sc-393304 AF594) or Alexa Fluor[®] 647 (sc-393304 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-393304 AF680) or Alexa Fluor[®] 790 (sc-393304 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-393304 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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STORAGE

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

APPLICATIONS

BMPR-II (E-1) is recommended for detection of BMPR-II of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

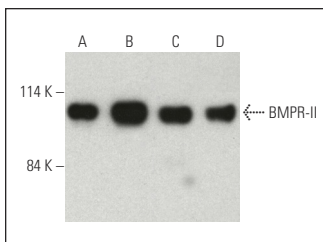
BMPR-II (E-1) is also recommended for detection of BMPR-II in additional species, including canine, bovine and porcine.

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.

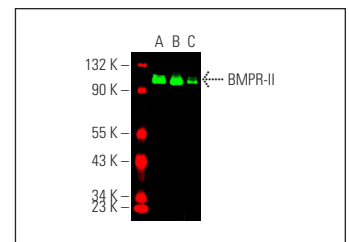
Molecular Weight of BMPR-II: 115 kDa.

Positive Controls: IMR-32 cell lysate: sc-2409, A-431 whole cell lysate: sc-2201 or HeLa whole cell lysate: sc-2200.

DATA



BMPR-II (E-1) HRP: sc-393304 HRP. Direct western blot analysis of BMPR-II expression in HeLa (A), IMR-32 (B), TE671 (C) and A-431 (D) whole cell lysates.



BMPR-II (E-1) Alexa Fluor[®] 680: sc-393304 AF680. Direct near-infrared western blot analysis of BMPR-II expression in IMR-32 (A), Hep G2 (B) and HeLa (C) whole cell lysates. Blocked with UltraCruz[®] Blocking Reagent: sc-516214. Cruz Marker[™] Molecular Weight Standards detected with Cruz Marker MW Tag-Alexa Fluor[®] 790: sc-516731.

SELECT PRODUCT CITATIONS

1. Wang, C., et al. 2019. PPAR γ knockdown impairs bone morphogenetic protein-2 (BMP2)-induced critical-size bone defect repair. *Am. J. Pathol.* 189: 648-664.
2. Luo, W., et al. 2021. BMP9-initiated osteogenic/odontogenic differentiation of mouse tooth germ mesenchymal cells (TGMCS) requires Wnt/ β -catenin signalling activity. *J. Cell. Mol. Med.* 25: 2666-2678.
3. Novoyatleva, T., et al. 2021. Deficiency of Axl aggravates pulmonary arterial hypertension via BMPR2. *Commun. Biol.* 4: 1002.
4. Wang, Y., et al. 2022. SPARC-related modular calcium binding 1 regulates aortic valve calcification by disrupting BMPR-II/p-p38 signalling. *Cardiovasc. Res.* 118: 913-928.

RESEARCH USE

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