SANTA CRUZ BIOTECHNOLOGY, INC.

BMPR-II (H-300): sc-20737

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

CHROMOSOMAL LOCATION

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

SOURCE

BMPR-II (H-300) is a rabbit polyclonal antibody raised against amino acids 27-150 mapping within an extracellular domain of BMPR-II of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

BMPR-II (H-300) is recommended for detection of BMPR-II of mouse, rat 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)], 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

BMPR-II (H-300) is also recommended for detection of BMPR-II in additional species, including equine, 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 or mouse heart extract: sc-2254.

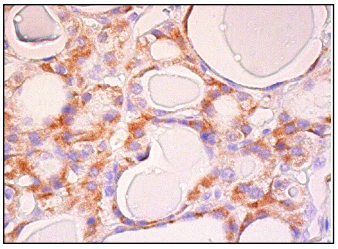
STORAGE

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.

DATA



BMPR-II (H-300): sc-20737. Immunoperoxidase staining of formalin fixed, paraffin-embedded human thyroid gland tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Peterson, R.S., et al. 2004. CD44 modulates Smad1 activation in the BMP-7 signaling pathway. J. Cell Biol. 166: 1081-1091.
2. Chen, D.F., et al. 2010. $^{+}$-Cholesten-3-one induces differentiation of neural stem cells into dopaminergic neurons through BMP signaling. Neurosci. Res. 68: 176-184.
3. Durrington, H.J., et al. 2010. Identification of a lysosomal pathway regulating degradation of the bone morphogenetic protein receptor type II. J. Biol. Chem. 285: 37641-37649.
4. Murakami, K., et al. 2010. Smurf1 ubiquitin ligase causes downregulation of BMP receptors and is induced in monocrotaline and hypoxia models of pulmonary arterial hypertension. Exp. Biol. Med. 235: 805-813.
5. Bonner, C., et al. 2011. Bone morphogenetic protein 3 controls Insulin gene expression and is down-regulated in INS-1 cells inducibly expressing a hepatocyte nuclear factor 1A-maturity-onset diabetes of the young mutation. J. Biol. Chem. 286: 25719-25728.
6. Dwivedi, P.P., et al. 2013. Regulation of bone morphogenetic protein signalling and cranial osteogenesis by Gpc1 and Gpc3. Bone 55: 367-376.

PROTOCOLS

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