Anti-Bone Morphogenetic Protein Receptor-2
Produced in goat, affinity isolated antibody

Product Number B9928

Product Description
Anti-Bone Morphogenetic Protein Receptor-2 (BMP-R2) is developed in goat using a purified recombinant human BMP R2, extracellular domain, expressed in NSO cells, as immunogen. The antibody is purified using human BMP R2 affinity chromatography.

Anti-Bone Morphogenetic Protein Receptor-2 (BMP-R2) recognizes recombinant human BMP-R2 by ELISA and immunoblotting. By immunoblotting, the antibody shows ~10% cross-reactivity with recombinant mouse BMP-RIB using reducing conditions, and shows <1% cross-reactivity with recombinant human BMP-RIA and recombinant mouse BMP-RIA.

Bone Morphogenic Proteins (BMP) are members of the TGF-β superfamily that affect bone and cartilage formation. Mature BMPs are 30-38 kDa proteins that assume a TGF-β-like cysteine knot configuration. Unlike TGF-β, BMPs do not form latent complexes with their propeptide counterparts. Most BMPs are homodimers, but bioactive natural heterodimers have been reported. Recently it was found that Lovostatin (Mevinolin, Sigma Product M 2147), widely used for lowering cholesterol, also increases bone formation by turning on a gene (bmp-2) that promotes local bone formation.

BMPs create an environment conducive for bone marrow development by stimulating the production of specific bone matrix proteins and altering stromal cell and osteoclast proliferation. In addition to stimulating ectopic bone and cartilage development, BMPs may be an important factor for development of the viscera, with roles in cell proliferation, apoptosis, differentiation, and morphogenesis. BMPs appear to be responsible for normal dorsal/ventral patterning. Like TGF-β, BMPs bind to a type II receptor, which then recruits the transducing type I receptor unit, activating the Smad protein signaling pathway. There are six TGF-β family type II receptors. BMP receptors are a family of serine/threonine kinases that include the type I receptors BMP R1A and BMPR1B (50-55 kDa) and the type II receptor BMP R2 (70-80 kDa). These receptors are also closely related to the activin receptors ACV R1 and ACV R2.

Reagent
Anti-BMP-R2 is supplied lyophilized from a 0.2 μm filtered solution of phosphate buffered saline containing 5% trehalose.

Preparation Instructions
To one vial of lyophilized powder, add 1 mL of 0.2 μm-filtered PBS to produce a 0.1 mg/mL stock solution of antibody. If aseptic technique is used, no further filtration should be needed for use in cell culture environments.

Storage/Stability
Prior to reconstitution, store at −20 °C. Reconstituted product may be stored at 2-8 °C for up to one month. For prolonged storage, freeze in working aliquots at −20 °C. Avoid repeated freezing and thawing.

Product Profile
For ELISA, a working concentration of 0.5-1.0 μg/mL is determined to detect a limit of ~2.5 ng/well of recombinant human BMP-R2.

For immunoblotting, a working concentration of 0.1-0.2 μg/mL is determined using human BMP-R2 at 50 ng/lane and 5 ng/lane under non-reducing and reducing conditions, respectively.

Note: In order to obtain best results in different techniques and preparations, we recommend determining optimal working dilutions by titration.
References

KAA/LPG 04/06