Anti-Bone Morphogenetic Protein-1 (BMP-1), CUB-2 Domain
Developed in Rabbit, Affinity Isolated Antibody

Product Number B 4933

Product Description
Anti-Bone Morphogenetic Protein-1 (BMP-1), CUB-2 Domain, is developed in rabbit using a synthetic peptide corresponding to the CUB-2 domain of human BMP-1 (EC 3.4.24.1, procollagen C-edopeptidase, procollagen C-peptidase, procollagen C-proteinase, PCP, mammalian tolloid) as immunogen. The antibody is affinity purified using peptide agarose.

Anti-Bone Morphogenetic Protein-1 (BMP-1), CUB-2 Domain recognizes the CUB-2 domain of human bone morphogenetic protein-1 (BMP-1). By immunoblotting, the antibody will detect the longer mammalian tolloid (mTld) form (approx. 112 kDa) of BMP-1 and the shorter forms (98 and 65 kDa) as well as other smaller spliced variants of BMP-1.

Bone morphogenetic protein-1 (BMP-1) was first identified in osteogenic extracts of bone. It is an extracellular zinc endopeptidase, implicated in morphogenetic processes in a broad range of species. BMP-1 is a member of the astacin family of metalloproteinases. The astacin family includes BMP-1, astacin, meprin-A and B, tolloid-like proteins, and choriolysin. BMP-1 is involved in extracellular matrix (ECM) formation, suggesting that a functional link may exist between astacin metalloproteinases, growth factors, and cell differentiation and pattern formation during development.

The name PCP reflects the involvement of this enzyme in the collagen deposition of growing bone. The enzymes known as the procollagen C and N proteinases (PCP and PNP) are involved in the processing of fibrillar procollagen precursors to mature collagens, which is an essential requirement for fibril formation. PCP cleaves the C-terminus from procollagen, to allow the formation of mature, triple-helical collagen. The N-terminus is cleaved by the procollagen N-proteinase (PNP or ADAM-TS2). Defects in PNP have been linked to the skin disorder dermatosparaxis, and defects in BMP-1 are thought to lead to aberrant collagen processing, and connective tissue disorders.

Many forms of BMP-1 have been reported, with varying truncation at the C-terminus. The long form of BMP-1 is most similar to the tolloid-like proteins, which have extra EGF-like and CUB domains.

Reagent
Anti-Bone Morphogenetic Protein-1 (BMP-1), CUB-2 Domain is supplied as 1 mg/ml of antibody in 0.01 M phosphate buffered saline, containing 50% glycerol and 0.05% sodium azide.

Storage/Stability
For continuous use, store at 2-8 °C for up to one month. For extended storage, the solution may be stored at 0 °C to –20 °C. Do not store in a frost-free freezer. The antibody is supplied in 50% glycerol to prevent freezing. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

Precautions and Disclaimer
Due to the sodium azide content, a material safety data sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazards and safe handling practices.

Product Profile
For immunoblotting, a working concentration of 1:1,000 is recommended using an alkaline phosphatase conjugated secondary antibody and a colorimetric substrate such as BCIP/NBT. For chemiluminescent substrates, a working concentration of 1:5,000 is recommended.

Note: Higher concentrations of antibody may be needed for samples from more distantly related species. EDTA/EGTA treatment of tissues or lysates is required to see latent zymogen.

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