ALPHA DIAGNOSTIC INTERNATIONAL

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Product Specification Sheet

Bone Morphogenetic Protein 13 (BMP-13)/CDMP2 Protein

Cat. # BMP135-R-10	Recombinant purified Human BMP13 protein	**SIZE**: 10 ug
Cat. # BMP135-R-50	Recombinant purified Human BMP13 protein	**SIZE**: 50 ug

The BMPs belong to the TGF- Beta superfamily, whose members are widely represented throughout the animal kingdom. The BMPs are important regulators of key events in the processes of bone formation during embryogenesis, postnatal growth, remodeling and regeneration of the skeleton. The BMPs function by binding to a receptor complex that is found on all normal cells and is composed of type-I and –II receptors. The primary unit of bone formation is osteoblast, the bone-forming cell. These osteoblast cells respond to physical loading by transducing signals that alter gene expression patterns, and Cbfa (core binding factor), the osteoblast specific transcription factor plays an important role in osteoblast differentiation and function.

BMP activities are modulated through gene expression, protein processing and by interaction with antagonists. The interplay between BMPs and their antagonists such as noggin & chordin governs developmental and cellular processes as diverse as establishment of the embryonic dorsal-ventral axis, induction of neuronal tissue, and formation of joints in the skeletal system and the neurogenesis in the adult brain.

Localization studies in both human and mouse tissues have demonstrated high levels of mRNA expression and protein synthesis for various BMPs in kidney, heart, lung, small intestine, limb bud and teeth. Several BMPs have been implicated in early skeletal development, including BMP-2, -4, -5, -7, -14 (CDMP-1 / GDF-5), other members, such as BMP-3, -6, -7 and –13 (CDMP-2 / GDF-6) may be involved in later stages of skeletal formation.

BMP13 / CDMP-2 / GDF-6, a cartilage derived morphogenetic protein with 436aa sequence with a 120aa polypeptide mature chain, exists as homodimer subunits linked with a disulphide bond. This cartilage derived morphogenetic protein (CDMP) is predominantly expressed in long bones during human embryonic development.

Source of Antibodies and Protein controls

Recombinant Human BMP-13/CDMP-2/GDF-6 is a 13.5 kDa homodimeric disulfide-linked protein consisting of 120 amino acids (27 Kda). It was expressed in E. coli ad purified to >95%.

Purified recombinant human BMP-13 (**cat # BMP135-R-10**) has endotoxin level (<0.1 ng/1 ug). The **biological activity** of rhBMP-13/CDMP2 was determined by its ability to induce alkaline phosphatase production by ATDC5 chondrogenic cells. The expected ED50 for this effect is 2.0-3.0 ug/ml

Reconstitution: The rhBMP-13 is available in lyophilized form in PBS containing 0.1% BSA. We recommend a quick spin followed by reconstitution in water containing BSA to a concentration of no less than 10 ug/ml.

Stability: 6-12 months at –20oC or below.

Shipping: 4oC for solutions and room temp for powder.

General References:

Chang, S. C et al (1994) JBC Vol. 269 (45), 28227-28234; Paralkar V. M et al (1998) JBC 273 (22) 13760-13767; Tomaski SM et al (1999) Arch Otolaryngol Head Neck Surg. 125 (8) 901-906.

*This product is for in vitro research use only.

Related material available from ADI

BMP 1-8, CDMP –1, -2 antibodies and recombinant proteins.

Human BMP-7 ELISA kit

BMP135-R-10-50 71215S

India Contact:
Life Technologies (India) Pvt. Ltd.
306, Aggarwal City Mall, Opposite M2K Pitampura, Delhi – 110034 (INDIA). Ph: +91-11-42208000, 42208111, 42208222, Mobile: +91-9810521400, Fax: +91-11-42208444
Email: customerservice@lifetechindia.com Website: www.lifetechindia.com