ALPHA DIAGNOSTIC INTERNATIONAL

LIFE TECH Life Technologies™ Your Molecular & Cell Technology Partner

Product Specification Sheet

Bone Morphogenetic Protein-6 (BMP-6) Protein

□ Cat. # BMP65-R-10 Recombinant Human BMP-6 Protein, Biologically active **SIZE**: 10 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.

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.

BMP6 or VGR1, a 57kD protein with 513aa in human (chr 6p24), Increased production of BMP6 is mediated by the skeletal effects of estrogen on bone and cartilage, BMP-6 differs from other members of the BMP family by its concentration in cartilage of the fetus.

Source of Antigen, Antibodies, Protein and controls

The human BMP-2 signal peptide and propeptides (aa residues 1-282 of human BMP-2) fused to the human BMP-6 mature chain (aa residues 382-513 of human BMP-6) was expressed in a mouse myeloma cell line, NSO. The mature recombinant human BMP-6, generated by the proteolytic removal of the signal peptide and propeptide, is a disulfide-linked homodimeric protein consisting of two 132aa residue subunits with a mol. mass of ~15kD. Due to glycosylation the rhBMP-5 migrates as an ~36kD protein under non-reducing conditions and as doublet of 18kD and 23kD protein under reducing conditions in SDS-PAGE.

Purified recombinant human (**cat # BMP65-R-10, and # BMP65-R-20**) **BMP-6** has endotoxin level (<1.0 ng/1 ug). The biological activity of rhBMP-6 was determined by its ability to induce alkaline Phosphatase production by ATDC5 chondrogenic cells (ED50 = 0.05-0.15ng/ml).

Reconstitution: The rhBMP-6 is available in lyophilized form containing 0.1% BSA. We recommend that sterile 4mM HCl containing at least 0.1% human serum albumin or bovine serum albumin (BSA) be added to the vial to prepare a stock solution of no less than 10ug/ml.

Storage

Short-term: unopened, undiluted vials for 1-2 months at 4oC.

Long-term: at –20C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

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

Shipping: 4oC for for powder.

General References:

Kawabata, M et al (1998) Cytokine and Growth Factor Reviews 9: 49-61, Ebendal, T et al (1998), J. Neurosci. Res. 51: 139-146; Reddi, A. H (1998), Nature Biotechnology 16: 247-252; Celeste, A et al (1990) PNAS. 87: 9843-9847.

*This product is for in vitro research use only.

Related material available from ADI

BMP 1-8, CDMP-1, -2 recombinant protein and antibodies.
Human BMP-7 ELISA kit

BMP65-R-10-20 71220A

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