HumanKine™ Bone Morphogenic Protein 2, human recombinant, expressed in HEK 293 cells

Catalog Number H4791
Storage Temperature –20 °C

Synonym: BMP-2

Product Description
HumanKine™ Bone Morphogenetic Protein 2 is produced from a DNA sequence encoding the human BMP-2 protein, expressed in HEK 293 cells. It is a glycosylated homodimer linked by a single disulfide bond with an apparent molecular mass of 30–38 kDa.

Bone Morphogenetic Protein 2 is a member of the TGF-β superfamily of cytokines that affect bone and cartilage formation. It is important for skeletal development during embryogenesis. BMP-2 induces chondrocyte formation, osteoblast differentiation, and is involved in embryo dorsal-ventral patterning and organogenesis.

It has been reported that BMP-2 inhibits estradiol-induced proliferation of human breast cancer cells. BMP-2 signaling mediates apoptosis by activation of the TAK1-p38 kinase pathway that is negatively regulated by Smad6. Cellular responses to BMP-2 are mediated by the formation of hetero-oligomeric complexes of type I and type II serine/threonine kinase receptors, which play significant roles in BMP binding and signaling. One BMP type II receptor and two BMP type I receptors have been identified. Both BMP type I receptors bind BMP-2 with high-affinity in the absence of BMP receptor type II.

This product is lyophilized from a solution of 50 mM sodium acetate, pH 4.5, with 50 mM NaCl.

ED₅₀: ≤200 ng/mL

The specific activity is determined by the dose dependent induction of alkaline phosphatase production in the ATDC-5 cell line (mouse chondrogenic cell line).

Purity: ≥95% (SDS-PAGE)

Endotoxin level: ≤1 EU/µg

Precautions and Disclaimer
This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions
Briefly centrifuge the vial before opening. It is recommended to reconstitute the protein in sterile PBS containing 0.1% endotoxin-free recombinant human serum albumin.

Storage/Stability
Store the product at –20 °C. The lyophilized product remains active for one year at –20 °C.

Upon reconstitution, the cytokine can be stored at 2–8 °C for short term only, or at –20 °C to –80 °C in aliquots for long term. Avoid repeated freeze-thaw cycles.

References

HumanKine is a trademark of HumanZyme Inc.