

PPH57 PODS® BMP-5

Description

The product contains the polyhedrin protein co-crystallized with Human BMP-5. BMP-5, also known as Bone Morphogenetic Protein 5, is a member of the TGF superfamily of proteins. Akin to the other functionally and structurally related bone morphogenetic proteins (BMPs), BMP-5 is involved in cartilage and bone formation as BMP-5, along with BMP-6 and BMP-7, shares high sequence homology with BMP-2. Furthermore, BMP-5 is expressed by chondrocytes in proliferating bone growth plates and contributes to limb development by promoting proliferation and differentiation of chondrocytes as well as apoptosis of undifferentiated mesoderm. Outside the context of bone and cartilage, BMP-5 is expressed in the lung and liver as well as the trabecular meshwork and optic nerve head where it may have a role in the development and normal function. Furthermore, in the developing as well as adult nervous system, BMP-5 promotes dendrite outgrowth, morphology and dopaminergic neuronal differentiation. Analogous to other BMPs, BMP-5 is a disulfide-linked homodimer and highly conserved across animal species.

Length	139 aa
Molecular Weight	41.6 kDa
Source	<i>Spodoptera frugiperda (Sf9) cell culture</i>
Accession Number	P22003

Usage Recommendation

PODS® co-crystals provide a depot of proteins which are steadily secreted. It has been estimated that the biological activity of 50 million PODS® co-crystals generates the same peak dose as 3.3 µg of standard recombinant protein. However, at 5 days following the start of seeding the PODS® co-crystals, there are more than 50% of these peak levels still present in the culture system. Ultimately, the amount of PODS® co-crystals that is optimal for a particular experiment should be determined empirically. Based on previous data, we suggest using 50 million PODS® co-crystals in place of 3.3 µg of standard growth factor as a starting point. To control for cross-reactivity with cells or as a negative control, we recommend using PODS® growth factors alongside PODS® Empty crystals, as the latter do not contain or release cargo protein.

Specifications

Alternative Names	BMP5, Bone Morphogenetic Protein 5
Endotoxin Level	<0.06 EU/ml as measured by gel clot LAL assay
Formulation	PODS® were lyophilized from a volatile solution
AA Sequence	MADVAGTSNR DFRGREQRLF NSEQYNYNNS KNSRPSTSLY KKAGFAANKR KNQNRNKSSS HQDSSRMSSV GDYNTSEQKQ ACKKHELYVS FRDLGWQDWI IAPEGYAAFY CDGECSEFPLN AHMNATNHAI VQTLVHLMFP DHVPKPCCAP TKLNAISVLY FDDSSNVILK KYRNMVVRSC GCH*

Preparation and Storage

Reconstitution	PODS® co-crystals may be reconstituted at 200 million co-crystals/ml in sterile PBS. 20% glucose has a buoyant density closer to PODS® co-crystals and can be useful for aliquoting. PODS® co-crystals are highly stable when stored in aqueous solution (pH range 6 - 8). Upon receipt, store at 4°C. PODS® co-crystals are stable for at least 1 year when dry and 6 months when resuspended.
Stability and Storage	