PPH54 PODS® BMP-3

Description

The product contains the polyhedrin protein co-crystalized with Human BMP-3. BMP-3, also known as Bone Morphogenetic Protein 3 or osteogenin, is a member of the TGF superfamily of proteins. Akin to the other functionally and structurally related bone morphogenic proteins (BMPs), BMP-3 is involved in cartilage and bone formation. However, unlike most other BMPs, BMP-3 negatively regulates bone density by antagonizing the ability of osteogenic BMPs, such as BMP-2, to induce osteoprogenitor differentiation and ossification. It has been suggested that this inhibitory effect could be through an Activin signalling pathway rather than direct competition with osteogenic BMPs. The BMP-3 protein is a disulfide-linked homodimer and highly conserved across animal species; for example, the amino acid sequence of human and rat BMP-3 are 98% identical. BMP-3 is frequently expressed in adult and foetal cartilage.

Length	111 aa
Molecular Weight	35.2 kDa
Source	*Spodoptera frugiperda (Sf9) cell culture*
Accession Number	P12645

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	BMP3, BMP3A, BMP-3A, Bone Morphogenetic Protein 3, Bone Morphogenetic Protein 3A, Osteogenin
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 KKAGFQWIEP RNCARRYLKV DFADIGWSEW IISPKSFDAY YCSGACQFPM PKSLKPSNHA TIQSIVRAVG VVPGIPEPCC VPEKMSSLSI LFFDENKNVV LKVYPNMTVE SCACR*

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).
Stability and Storage	Upon receipt, store at 4°C. PODS® co-crystals are stable for at least 1 year when dry and 6 months when resuspended.