

PPH53 PODS® BMP-2

Description

The product contains the polyhedrin protein co-crystallized with Human BMP-2. Bone Morphogenetic Protein 2 (BMP-2) is a member of the Bone Morphogenetic Protein (BMP) family. These proteins are synthesized as large precursor molecules which are cleaved by proteolytic enzymes. BMP-2 functions as a potent inducer of bone and cartilage development. Active BMP-2 consists of forming a homodimer or a heterodimer with a related BMP, such as BMP-7. BMP-2 signals through type I and type II receptor tyrosine kinases in conjunction with SMAD proteins to directly promote osteoblast differentiation. BMP-2 is also important during cardiac development and supports epicardial cell migration.

Length	397 aa
Molecular Weight	99.8 kDa
Source	<i>Spodoptera frugiperda (Sf9) cell culture</i>
Accession Number	P12643

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	Bone morphogenetic protein 2, bone morphogenetic protein 2A, BMP-2A, BMP2, BMP2A
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 KKAGFMVAGT RCLLALLLPQ VLLGGAAGLV PELGRRKFAA ASSGRPSSQP SDEVLSEFEL RLLSMFGLKQ RPTPSRDAVV PPYMLDLYRR HSGQPGSPAP DHRLERAASR ANTVRSFHHE ESLEELPETS GKTTRRFFFN LSSIPTEEFI TSAELQVFRE QMQDALGNNS SFHHRINIYE IIKPATANSK FVTRLLDTR LVNQNASRWE SFDVTPAVMR WTAQGHANHG FVVEVAHLEE KQGVSKRHVR ISRSLHQDEH SWSQIRPLLV TFGHDGKQHP LHKREKRQAK HKQRKRLKSS CKRHPLYVDF SDVGWNDWIV APPGYHAFYC HGCEPFPLAD HLNSTNHAIV QTLVNSVNSK IPKACCVPT ELSAISMLYLD ENEKVVLKNY QDMVVEGCGC R*

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.