

## PPH304 PODS<sup>®</sup> Human Noggin

### Description

The product contains the polyhedrin protein co-crystalized with Human Noggin. Noggin belongs to a group of diffusible proteins that bind to ligands of the TGF- $\beta$  family, and regulate their activity by inhibiting their access to signaling receptors. During embryogenesis, Noggin is a secreted homodimeric glycoprotein that is an antagonist of bone morphogenetic proteins (BMPs) at specific times, for example, during neural tube, somite and cardiomyocyte growth and patterning. During culture of human embryonic stem cells (hESC) or neural stem cells under certain conditions, addition of Noggin to antagonize BMP activity may allow stem cells to proliferate while maintaining their undifferentiated state, or alternatively, to differentiate into dopaminergic neurons.

<b>Length</b>	250 aa
<b>Molecular Weight</b>	56.4 kDa
<b>Source</b>	<i>Spodoptera frugiperda (Sf9) cell culture</i>
<b>Accession Number</b>	Q13253

### Usage Recommendation

PODS<sup>®</sup> co-crystals provide a depot of proteins which are steadily secreted. It has been estimated that the biological activity of 50 million PODS<sup>®</sup> co-crystals generates the same peak dose as 3.3  $\mu$ g of standard recombinant protein. However, at 5 days following the start of seeding the PODS<sup>®</sup> co-crystals, there are more than 50% of these peak levels still present in the culture system. Ultimately, the amount of PODS<sup>®</sup> co-crystals that is optimal for a particular experiment should be determined empirically. Based on previous data, we suggest using 50 million PODS<sup>®</sup> co-crystals in place of 3.3  $\mu$ g of standard growth factor as a starting point. To control for cross-reactivity with cells or as a negative control, we recommend using PODS<sup>®</sup> growth factors alongside [PODS<sup>®</sup> Empty crystals](http://www.cellgs.com/products/podsand8482-empty.html), as the latter do not contain or release cargo protein.

### Specifications

<b>Alternative Names</b>	NOG, SYM1, symphalangism 1 (proximal), synostoses (multiple) syndrome 1, SYNS1
<b>Endotoxin Level</b>	<0.06 EU/ml as measured by gel clot LAL assay
<b>Formulation</b>	PODS <sup>®</sup> were lyophilized from a volatile solution
<b>AA Sequence</b>	MADVAGTSNR DFRGREQRLF NSEQYNNNS KNSRPSTSLY KKAGFQHYLH IRPAPSDNLP LVDLIEHPDP IFDPKEKDLN ETLLRSLGG HYDPGFMATS PPEDRPGGGG GAAGGAEDLA ELDQLLRQRP SGAMPSEIKG LEFSEGLAQQ KKQRLSKKLR RKLQMWLWSQ TFCPVLYAWN DLGSRFWPRY VKVGSCFSKR SCSVPEGMVC KPSKSVHLTV LRWRCQRRGG QRCGWIPIQY PIISECKCSC

### Preparation and Storage

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

