



PPH302 PODS® Empty

Description

PODS® Empty crystals are composed solely of polyhedrin protein which self-assembles into regular, cubic crystals. Thus, these PODS® co-crystals do not contain any cargo protein, in contrast to other PODS® growth factor products, and are intended to be used as negative controls alongside cargo-containing PODS® co-crystals. The cross-reactivity of PODS® Empty crystals has been tested on a variety of cells including mouse ES cells, PC12, fibroblasts, and ETS embryos, and there was no observable interference with the tested cells. Additionally, in-vivo data indicate no inflammatory response to PODS® Empty crystals in animals.

Length	250 aa
Molecular Weight	28.7 kDa
Source	<i>Spodoptera frugiperda (Sf9) cell culture</i>
Accession Number	D37771.1

Usage Recommendation

PODS® are pure protein co-crystals consisting of polyhedrin, a structural scaffold protein, and a cargo protein. Under the action of proteases, which degrade the scaffold protein, PODS provide sustained release of the cargo protein. Any cargo growth factor molecule contained within PODS is not available to cells and not bioactive. Once released, growth factors become available to bind cells and are bioactive. The concentration to which a growth factor accumulates in cell culture media (or in-vivo environment) will depend on the amount of cargo (contained in PODS) added, the rate of cargo release, and the subsequent rate of degradation of the released cargo protein. As a rule of thumb, in the presence of 10% serum, peak levels of available growth factors released from PODS are reached within 24-48 hours. Typically, at this point 20% of the growth factor cargo initially contained within the PODS is present in a soluble form and available to bind cells. For example, if PODS containing 100 ng of cargo are added to 10 ml of cell culture media containing 10% serum, it can be expected that 20 ng will be released after 24 hours to give a concentration of available growth factor of 2 ng/ml. The concentration that you need for a particular application will likely be lower than the equivalent conventional growth factor. This is because PODS are better at maintaining minimum growth factor concentrations. Pre-incubating PODS with serum for 24 hours prior to culture will ensure that available growth factor is immediately present. Ultimately, the amount of PODS growth factor that is optimal for a particular experiment should be optimized empirically.

PODS® Empty crystals display the same physical properties as other PODS® growth factor products. While PODS® Empty behave in the same way as other PODS® co-crystals, they differ in that they do not contain or release cargo protein. They can be used analogous to other PODS® growth factor products.

Specifications

Alternative Names	Bombyx mori cypovirus polyhedrin protein
Endotoxin Level	<0.06 EU/ml as measured by gel clot LAL assay
Formulation	PODS® were lyophilized from a volatile solution

AA Sequence	MIMADVAGTS NRDFRGREQR LFNSEQYNYN SSLNGEVSVW VYAYYSDGSV LVINKNSQYK VGISETFKAL KEYREGQHND SYDEYEVNQS IYYPNGGDAR KFHSNAKPRA IQIIFSPSVN VRTIKMAKGN AVSVPDEYLQ RSHPW EATGI KYRKIKRDGE IVGYSHYFEL PHEYNSISLA VSGVHKNPSS YNVGSAHNVM DVFQSCDLAL RFCNRYW AEL ELVNHYISP N AYPYLDINNH SYGVALSNRQ
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Preparation and Storage

Reconstitution

Ensure the PODS® are resuspended in buffer by pipetting up and down immediately before aliquoting. PODS® may be reconstituted at 100 ug/ml in water. 20% glucose has a buoyant density closer to PODS® and can be useful for slowing sedimentation when aliquoting. PODS® are highly stable when stored in aqueous solution (pH range 6 - 8).

Stability and Storage

Upon receipt, store at 4°C. PODS® are stable for at least 1 year when dry and 6 months when resuspended.