

PPH41 PODS[®] Human Follistatin

Description

The product contains the polyhedrin protein co-crystallized with Human Follistatin. Follistatin is an autocrine, activin-binding protein that is ubiquitously expressed with highest expression levels being in the ovary and skin. Follistatin negatively regulates the signaling of Transforming Growth Factor β (TGF- β) family members, such as activin, bone morphogenic proteins (BMP), myostatin, Growth Differentiation Factor 11 (GDF-11), and TGF- β 1. Follistatin functions as an antagonist by binding TGF- β family members to block interaction with their signaling receptors. Follistatin also inhibits the secretion of Follicle-Stimulating Hormone (FSH) from the anterior pituitary.

Length	333 aa
Molecular Weight	36.7 kDa
Source	<i>Spodoptera frugiperda (Sf9) cell culture</i>
Accession Number	P19883

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.

Specifications

Alternative Names FS, activin-binding protein, FSH-suppressing protein, FSP

Endotoxin Level <0.06 EU/ml as measured by gel clot LAL assay

Formulation PODS® were lyophilized from a volatile solution

AA Sequence

MADVAGTSNR	DFRGREQLRF	NSEQYNYNNS	KNSRPSTSLY	KKAGFGNCWL	RQAKNGRCQV
LYKTELSKEE	CCSTGRLSTS	WTEEDVNDNT	LFKWMIFNGG	APNCIPCKET	CENVDCGPGK
KCRMNKKNKP	RCVCAPDCSN	ITWKGPVCGL	DGKTYRNECA	LLKARCKEQP	ELEVQYQGRC
KKTCRDVFCP	GSSTCVVDQT	NNAYCVTCNR	ICPEPASSEQ	YLCGNDGVTY	SSACHLRKAT
CLLGRSIGLA	YEGKCIKAKS	CEDIQCTGGK	KCLWDFKVGR	GRCSLCDEL	PDSKSDEPVC
ASDNATYASE	CAMKEAACSS	GVLLEVKHSG	SCN		

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® co-crystals are stable for at least 1 year when dry and 6 months when resuspended.

Last updated on 02/08/2024. For further information mail tech@cellgs.com.