

PPH322 PODS[®] Human Semaphorin 3C

Description

The product contains the polyhedrin protein co-crystallized with Human Semaphorin 3C. Semaphorin 3C is a secreted semaphorin and potent chemorepellent during axon and vascular guidance in the development stage. Semaphorin 3C is upregulated in tumour progression and expressed in lung and neural cells.

Length	763 aa
Molecular Weight	173.2 kDa
Source	<i>Spodoptera frugiperda (Sf9) cell culture</i>
Accession Number	Q99985

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 Sema E, SEMA3C, SEMAE, semaphorin E, semaphorin-3C, semaphorin-E, SEME

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

Formulation PODS® were lyophilized from a volatile solution

AA Sequence

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MADVAGTSNR DFRGREQLF NSEQYNNNS KNSRPSTSLY KKAGFGSSQP QARVYLTFDE
LRETKTSEYF SLSHHPLDYR ILLMDEDQDR IYVGSKDHIL SLNINNISQE ALSVFWPAST
IKVEECKMAG KDPTHGCGNF VRVIQTFNRT HLYVCGSGAF SPVCTYLNRG RRSEDQVFMI
DSKCESGKGR CSFNPNVNTV SVMINEELFS GMYIDFMGTD AAIFRSLTKR NAVRTDQHNS
KWLSEPMFVD AHVIPDGTDP NDAKVYFFFK EKLTDDNNRST KQIHSMIARI CPNDTGGLRS
LVNKWTTFLK ARLVCSVTDE DGPETHFDEL EDVFLLETDN PRTTLVYGIF TTSSSVFKGS
AVCVYHLSDI QTVFNGPFAH KEGPNHQLIS YQGRIPIYPRP GTCPPGAFTP NMRTTKEFPD
DVVTFIRNHP LMYSNIYPIH KRPLIVRIGT DYKYTKIAVD RVNAADGRYH VLFLGTDRTG
VQKVVVLPNT NSVSGELILE ELEVFKNHAP ITTMKISSKK QQLYVSSNEG VSQVSLHRCH
IYGACADCC LARDPYCAWD GHSCSRFYPT GKRRSRRQDV RHGNPLTQCR GFNLKAYRNA
AEIVQYGVKN NTTFLECAPK SPQASIKWLL QKDKDRRKEV KLNRIIATS QGLLIRSVQG
SDQGLYHCIA TENSFKQTIA KINFKVLDS MVAVVTDKWS PWTWASSVRA LPFHPKDIMG
AFSHSEMQMI NQYCKDTRQQ HQQGDSEQKM RGDYGKLLKAL INS
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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.