PPM174 PODS® Mouse Fractalkine/CX3CL1

Description

The product contains the polyhedrin protein co-crystalized with Mouse Fractalkine. Fractalkine, also known as CX3CL1, is a cytokine protein containing a CX3C chemokine motif atop a mucin stalk. Fractalkine is produced by nonhemopoietic cells, including neurons and astrocytes. Soluble fractalkine functions as a chemoattractant for T cells and monocytes. Cell membrane-bound fractalkine, which is induced on activated endothelial cells, promotes leukocyte adhesion. The transmembrane chemokine receptor CX3CR1 mediates the adhesive and chemoattractant functions of fractalkine.

Length 129 aa (45 aa H1 affinity tag (blue), 84 aa Mouse Fractalkine/CX3CL1)

Molecular Weight 14.8 kDa

Source *Spodoptera frugiperda (Sf9) cell culture*

Accession Number NP_033168.2

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.

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 Neurotactin, CX3CL1

Formulation PODS® were lyophilized from a volatile solution

AA Sequence MADVAGTSNR DFRGREQRLF NSEQYNYNNS KNSRPSTSLY KKAGFLPGQH LGMTKCEIMC DKMTSRIPVA LLIRYQLNQE SCGKRAIVLE TTQHRRFCAD PKEKWVQDAM KHLDHQAAAL TKNGGKFEK

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 μg/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.