PPM25 PODS® Mouse CD40 Ligand

Description

The product contains the polyhedrin protein co-crystalized with Mouse CD40 Ligand. CD40 Ligand is a membrane glycoprotein and differentiation antigen that is expressed on the surface of T cells, monocytes, basophils, eosinophils, platelets, dendritic cells, and endothelial cells. CD40 Ligand binds and activates the CD40 receptor on antigen-presenting cells. CD40 Ligand stimulates B cell proliferation, immunoglobulin class switching, and antibody secretion. CD40 Ligand also induces cytokine production and tumoricidal activity in peripheral blood monocytes. CD40 Ligand is a co-stimulator of activated T cell proliferation and inflammatory protein production.

Length	193 aa (45 aa H1 affinity tag (blue), 148 aa Mouse CD40 Ligand)
Molecular Weight	21.5 kDa
Source	*Spodoptera frugiperda (Sf9) cell culture*
Accession Number	CAA46448.2

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	CD40 antigen ligand, CD40L, CD40-L, TNFSF5, TRAP, CD154, CD154 antigen, gp39, T-cell antigen Gp39, T-BAM, IGM, TRAP, HIGM1, IMD3, tumor necrosis factor ligand superfamily member 5, T-B cell-activating molecule, TNF-related activation protein
Formulation	PODS® were lyophilized from a volatile solution

AA Sequence	MADVAGTSNR DFRGREQRLF NSEQYNYNNS KNSRPSTSLY KKAGFQRGDE DPQIAAHVVS EANSNAASVL QWAKKGYYTM KSNLVMLENG KQLTVKREGL YYVYTQVTFC SNREPSSQRP FIVGLWLKPS SGSERILLKA ANTHSSSQLC EQQSVHLGGV FELQAGASVF VNVTEASQVI HRVGFSSFGL LKL

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.