

PDGFC Protein, Mouse, Recombinant (hFc)

General Information

Synonyms:	1110064L01Rik;PDGF-C;A1647969;platelet derived growth factor C
Protein Construction:	A DNA sequence encoding the receptor-binding form of mouse PDGFC (Q8CI19) (Val 235-Gly 345) was fused with the Fc region of human IgG1 at the N-terminus. Predicted N terminal: Glu
Species:	Mouse
Expression Host:	HEK293 Cells
Accession:	Q8CI19
Molecular Weight:	40.9 kDa (predicted); 46 kDa. (reducing conditions)

QC Testing

Biological Activity:	<ol style="list-style-type: none">1. Measured by its binding ability in a functional ELISA.2. Immobilized mouse PDGF-C at 10 µg/mL (100 µl/well) can bind human PDGFRA, The EC50 of human PDGFRA is 0.71 µg/mL.3. Measured in a cell proliferation assay using Balb/3T3 mouse embryonic fibroblast cells. The ED50 for this effect is typically 0.5-2 µg/mL.
Purity:	> 80 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/µg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 µm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:
A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

PDGF-C is a member of the PDGF/VEGF family of growth factors with a unique domain organization and expression pattern. Platelet-derived growth factor receptors (PDGFRs) are catalytic receptors that have

intracellular tyrosine kinase activity. They have roles in the regulation of many biological processes including embryonic development, angiogenesis, cell proliferation and differentiation, and contribute to the pathophysiology of some diseases, including cancer. There are two isoforms of the PDGFR receptor; PDGFRalpha and PDGFRbeta, which can form homo- or heterodimers. The endogenous PDGFR ligands are PDGF-A, -B, -C and -D, which induce receptor dimerization and transphosphorylation at specific tyrosine residues upon binding. This activates the intracellular kinase activity, initiating intracellular signaling through the MAPK, PI 3-K and PKCgamma pathways. PDGF-C acts as a specific ligand for alpha platelet-derived growth factor receptor homodimer, and alpha and beta heterodimer. Binding of this growth factor to its affinity receptor elicits a variety of cellular responses. PDGF-C appears to be involved in the three stages of wound healing: inflammation, proliferation and remodeling. PDGF-C is involved in fibrotic processes, in which transformation of interstitial fibroblasts into myofibroblasts plus collagen deposition occurs.

Reference

- Li X, et al. (2000) PDGF-C is a new protease-activated ligand for the PDGF alpha-receptor. *Nat Cell Biol.* 2 (5): 302-9.
- Ding H, et al. (2004) A specific requirement for PDGF-C in palate formation and PDGFR-alpha signaling. *Nat Genet.* 36 (10): 1111-6.
- Choi SJ, et al. (2009) The PDGF-C regulatory region SNP rs28999109 decreases promoter transcriptional activity and is associated with CL/P. *European Journal of Human Genetics.* 17 (11): 774-84.

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