



Recombinant Human Platelet-Derived Growth Factor-AA

20201215DS



FOR RESEARCH ONLY! NOT FOR HUMAN USE!

Cat.-no:	200-051S
Size:	2 µg
Lot. No.:	According to product label
Country of origin:	Germany

Scientific Background

Gene:	PDGFA
Synonyms:	Platelet-derived growth factor A chain, PDGF1

PDGFs are disulfide-linked dimers consisting of two 12.0-13.5kDa polypeptide chains, designated PDGF-A and PDGF-B chains. The three naturally occurring PDGFs; PDGF-AA, PDGF-BB and PDGF-AB, are potent mitogens for a variety of cell types including smooth muscle cells, connective tissue cells, bone and cartilage cells, and some blood cells. The PDGFs are stored in platelet alpha-granules and are released upon platelet activation.

The PDGFs are involved in a number of biological processes, including hyperplasia, chemotaxis, embryonic neuron development, and respiratory tubule epithelial cell development. Two distinct signaling receptors used by PDGFs have been identified and named PDGFR-alpha and PDGFR-beta. PDGFR-alpha is high-affinity receptor for each of the three PDGF forms. On the other hand, PDGFR-beta interacts with only PDGF-BB and PDGF-AB. Recombinant human PDGF-AA is a 28.5kDa disulfide-linked homodimer of two A chains (250 total amino acids).

References

1. Fredriksson L et al, Cytokine Growth Factor Rev 15:197-204, 2004
2. Heldin CH et al, Br J Cancer 57:591-3, 1988
3. Deuel TF et al, Biofactors 1:213-7, 1988
4. Meyer-Ingold and Eichner W, Cell Biol Int 19:389-98, 1995
5. Betsholtz C and Raines EW, Kidney Int 51:1361-9, 1997
6. Kaetzel DM, Cytokine Growth Factor Rev 14:427-46, 2003
7. Simm A et al, Basic Res Cardiol Suppl 3:40-3, 1998

Sequence

SIEEAVPAVCKTRTVIYEIIPRSQVDPTSANFLIWPPCVEVKRCTGCCNTSSV
KCQFSRVHRSVKVAKVEYVRKPKLKEVQVRLBEHLEACATTSLNPDYRE
EDTGRPRESGKKRKRKLP

Database References

Protein RefSeq:	NP_002598.5
Uniprot ID:	P04085
mRNA RefSeq:	NM_002607.5

Product Specifications

Expressed in	E.coli
Purity	> 95% by SDS-PAGE & silver stain
Buffer	50 mM acetic acid
Endotoxin	< 0.1ng per ug of PDGF-AA
Stabilizer	None
Formulation	lyophilized
Length (aa):	125
MW:	28,5 kDa
Result by N-terminal sequencing	SIEEAVPA

Stability: The lyophilized PDGF-AA is stable for a few weeks at room temperature, but best stored at -20°C. Reconstituted PDGF-AA is best stored at -20°C to -70°C.

Reconstitution: Centrifuge vial prior to opening. The lyophilized PDGF-AA should be reconstituted in water to a concentration not lower than 50 µg/ml. For long term storage we recommend to add at least 0.1% human or bovine serum albumin.



AVOID REPEATED FREEZE AND THAW CYCLES!

Biological Activity: The biological activity was determined by the induction of proliferation in NHDF cells (Normal Human Dermal Fibroblasts).



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Handling/Application

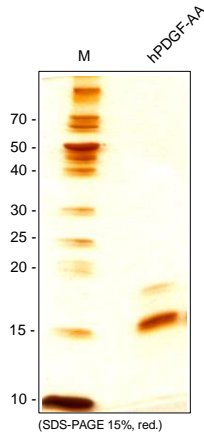


Fig. 1: SDS-PAGE analysis of recombinant human PDGF-AA. Sample was loaded in 15% SDS-polyacrylamide gel under reducing condition and stained with Silver stain.

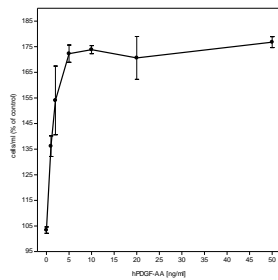


Fig. 2: Dose-dependent stimulation of cell proliferation in NHDF cells by recombinant human PDGF-AA. Values are the means (\pm SD) of triplicate determinations and expressed as percentage of control.