



# Recombinant Human Platelet-Derived Growth Factor-AA

20171120BB



**FOR RESEARCH ONLY! NOT FOR HUMAN USE!**

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

## Scientific Background

<b>Gene:</b>	<i>PDGFA</i>
<b>Synonyms:</b>	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  
KCQFSRVHHRSVKVAKVEYVRKKPKLKEVQVRLBEHLECACATTSLNPDYRE  
EDTGRPRESGKKRKRRLKPT

## Database References

<b>Protein RefSeq:</b>	NP_002598.5
<b>Uniprot ID:</b>	P04085
<b>mRNA RefSeq:</b>	NM_002607.5

## Product Specifications

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

**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:** 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.



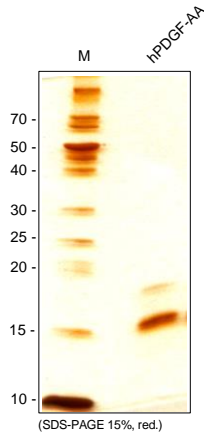
**AVOID REPEATED FREEZE AND THAW CYCLES!**

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

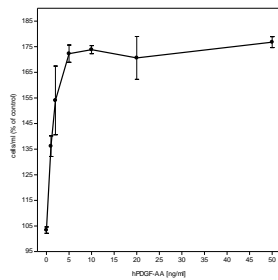


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## Handling/Application



**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.