

CG-VEGF (Vascular Endothelial Growth Factor)

INCI Name	Effect	Application
sh-Polypeptide-9	Hair Growth	Hair Care

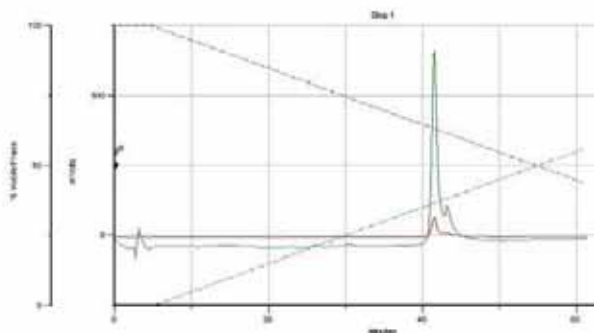


Tertiary structure of VEGF

Function

- Hair growth stimulation through the facilitation of nutrient feeding to hair follicle by the VEGF-induced angiogenesis.

Verified through HPLC and SDS-PAGE



HPLC analysis

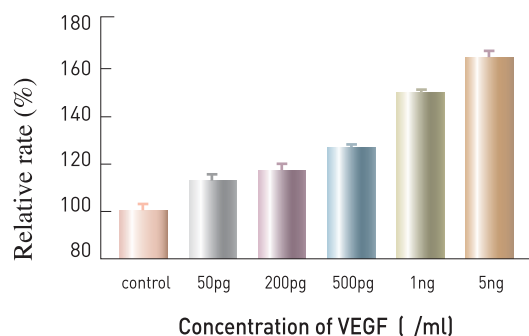


SDS-PAGE analysis

Trade Name	CG-VEGF
Source	<i>E. coli</i>
Appearance	White Milky Solution
Purity	>95± 1%(SDS-PAGE)
Amino Acid	165a.a
Molecular Weight	19.2 kDa
pH	6.5± 1.00
Shape	Nanosome
Preservative	Phenoxyethanol 0.2%
Recommended Dose	0.5ppm ~ 5ppm
Concentration	10ppm

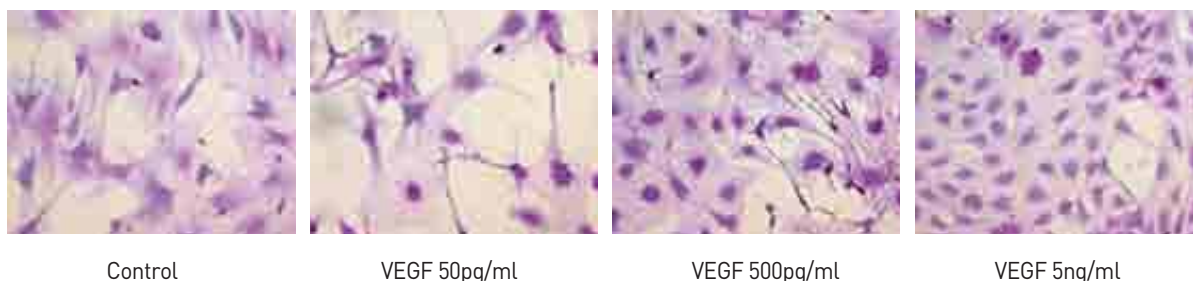
1. CG-VEGF & Hair-growth

a Cell Proliferation on Primary Hair Cell



Cell growth assay with primary hair cell after CG-VEGF treatment for 72hrs.

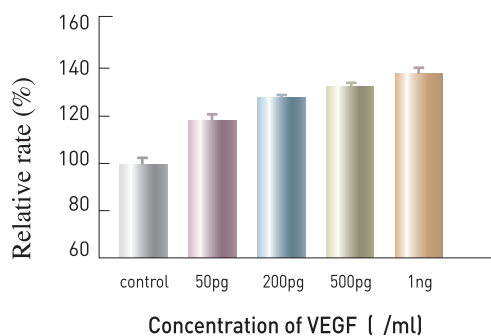
b Morphological Change of Primary Hair Cell



Cell morphology changed after 72hr incubation with CG-VEGF (50pg ~ 5ng/ml) on primary hair cells.

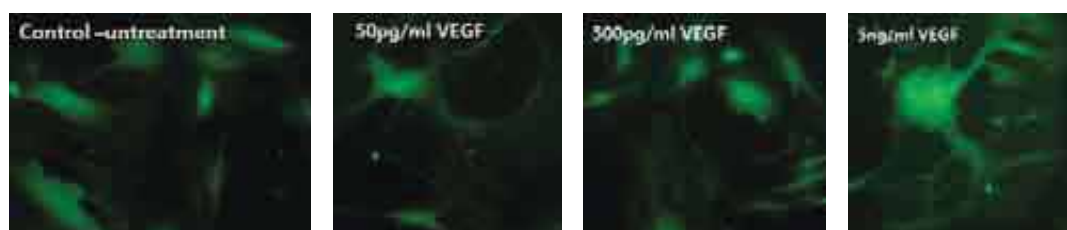
2. CG-VEGF & Angiogenesis

a Cell Proliferation on Human Vein Endothelial Cell (HUVEC)



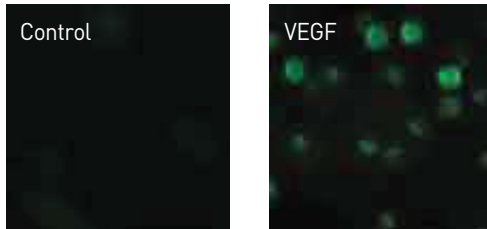
Cell growth assay with human vein endothelial cell line after CG-VEGF treatment for 72hrs.

b Morphological Change of Human Vein Endothelial Cell (HUVEC)



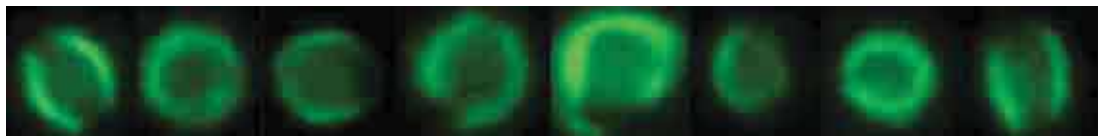
Significant Morphological change observed on HUVEC cell line with VEGF treatment.

c Angiogenesis Effect using Ab-CD31

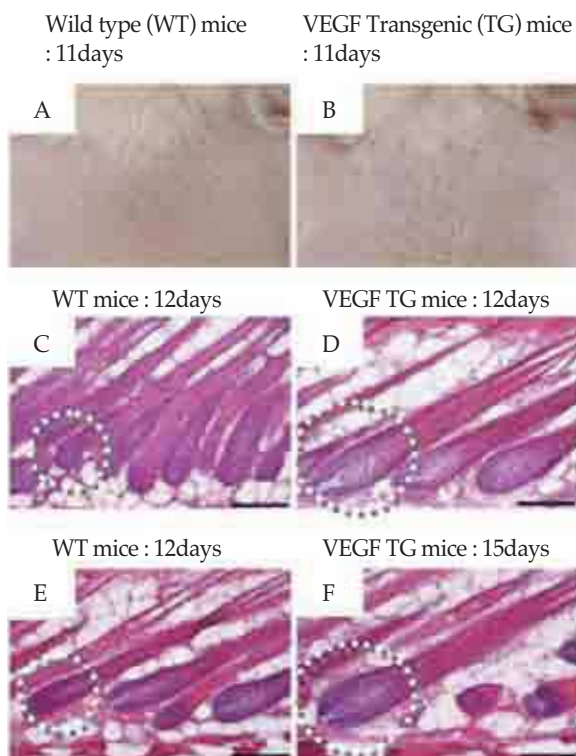


Immuno-cyto chemistry using Ab-CD31
CD31: Specific marker of endothelial cell migration and angiogenesis.

CG-VEGF was treated in HUVEC and used CD31 Ab in immuno-cyto chemistry to see the revelation of CD 31 Ab. It shows CG-VEGF is a strong angiogenic factor.



d VEGF can Induce Angiogenesis and Enhance Hair Follicle Activity



VEGF transgenic mice showed more and thicker hair compared with wild-type (WT) mice.

VEGF overexpressing hair follicles at days 12 and 15, accelerated hair growth and increased hair size were a consequence of VEGF mediated angiogenesis.

Scale bars = 100um

Ref. Kiichiro Y. et al., 2001
J. Clin. Invest. 107: 409-417