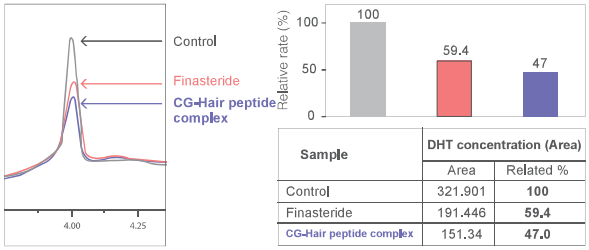
In-vitroTest Data

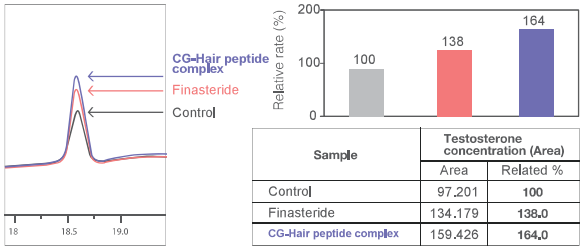
Inactivation of 5α Reductase activity

DHT



Sample	DHT concentration (Area)	
	Area	Related %
Control	321.901	**100**
Finasteride	191.446	**59.4**
CG-Hair peptide complex	151.34	**47.0**

Testosterone

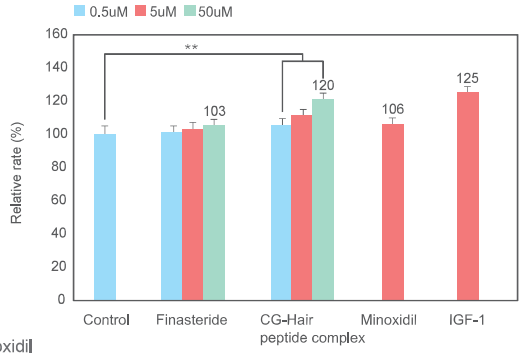


Sample	Testosterone concentration (Area)	
	Area	Related %
Control	97.201	**100**
Finasteride	134.179	**138.0**
CG-Hair peptide complex	159.426	**164.0**

Generally, Androgenic Alopecia patients have high level of DHT, and 5α Reductase is an enzyme which converts testosterone to DHT (dihydro-testosterone). CG-Hair peptide complex more strongly Blocks 5α Reductase and decreases DHT level than Finasteride.

Cell Proliferation with Human Hair Dermal Papilla Cells

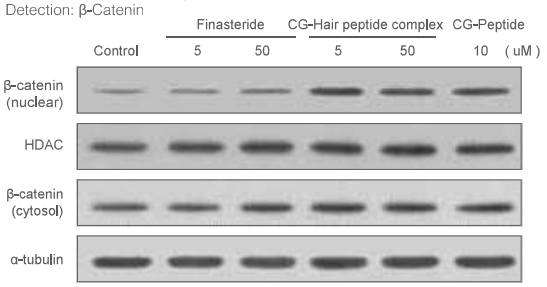
Cells: HHDPC
Materials: Finasteride, CG-Hair peptide complex, Minoxidil, IGF-1
Method: SRB Staining

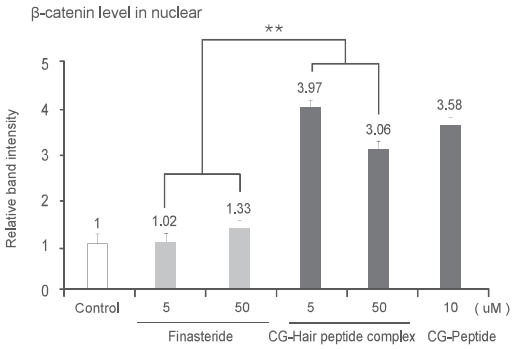


Cell proliferation Effect of CG-Hair peptide complex
CG-Hair peptide complex is more strongly promotes hair cell proliferation than Finasteride and Minoxidil

Nuclear translocation of β-Catenin in HHDPC

Materials: Finasteride, CG-Hair peptide complex, CG-Peptide (Positive Control)
Method: Western bolt analysis
Detection: β-Catenin

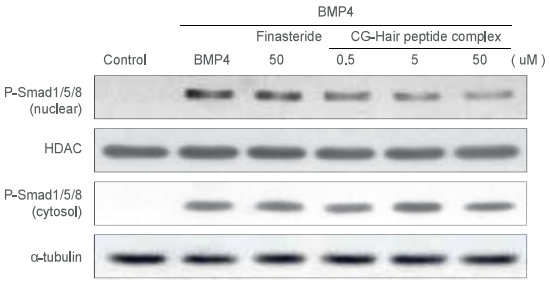


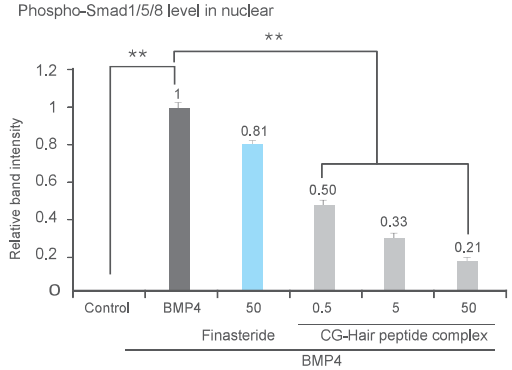


Effect of CG-Hair peptide complex on Nuclear translocation of β-Catenin
CG-Hair peptide complex shows stronger activation of β-Catenin expression than Finasteride. β-Catenin, one of Wnt signaling molecules, activation is a pivotal pathway for hair growth.

Inhibition of BMP Singal which is a key factor of Hair loss. (phospho-Smad1/5/8 activation)

Cells: HHDPC
Materials: Finasteride, CG-Hair peptide complex, BMP4
Method: Western blot analysis

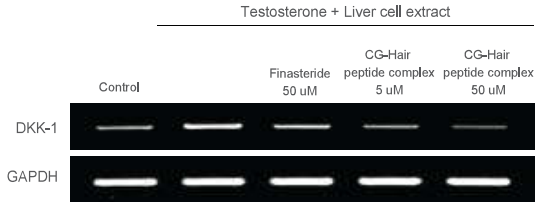


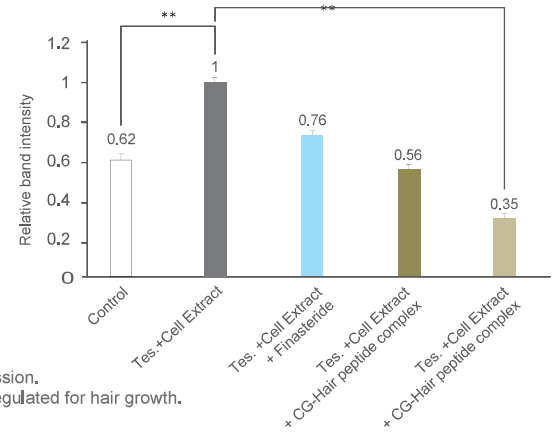


BMP4 is highly expressed in Androgenic alopecia patients.
CG-Hair peptide complex shows stronger downregulation of BMP4 downstream signaling molecule, P-Smad1/5/8 which implies CG-Hair peptide complex can improve hair loss problem.

Regulation of DHT-induced DKK-1 expression

Cells: HHDPC
Materials: Finasteride, CG-Hair peptide complex, Testosterone
Method: RT-PCR analysis





CG-Hair peptide complex decreases DHT-induced DKK-1, a true hair follicle killer, gene expression.
Androgenic Alopecia patients express high level of DKK-1 which should be mandatorily downregulated for hair growth.

Human Clinical Study Before vs After

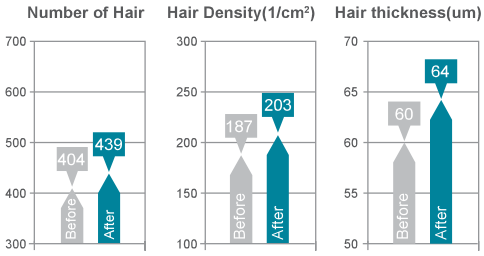
Before vs After comparison of Pelo Baum

Inclusion creteria
-Male with hair loss/ Male with Androgenic Alopecia/ 27-68 years of age/ Norwood-Hamilton Score 2 to 4

Case 1

Day 1

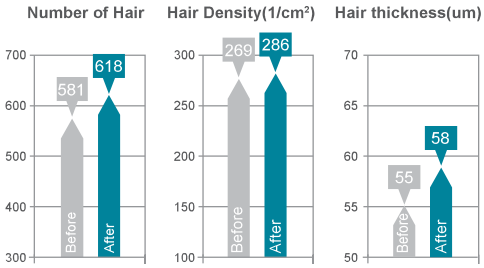
Day 90



Case 2

Day 1

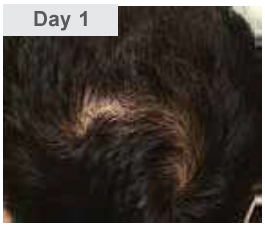
Day 90



Before vs After comparison with three months usage

Case 1

Day 1



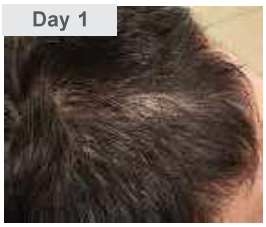
Day 90

Day 1

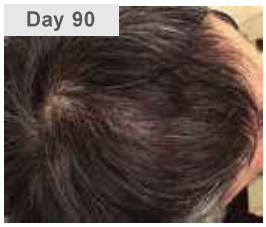
Day 90

Case 2

Day 1



Day 90



Day 1

Day 90