

# SpecKare® BT1HG

## Fighting follicle ageing

- Strengthening hair root
- Anti-hair loss

## Product Features

- Inhibit root sheath aging, stimulate adhesion proteins of root sheath and dermal papilla
- Act on hair follicles to promote hair growth
- Inhibiting inflammatory factors and the growth of bacteria

## Product Information

Product No.:	17001800
Trade Name:	SpecKare® BT1HG
INCI name:	Butylene Glycol, Aqua, PPG-26-Buteth-26, PEG-40 Hydrogenated Castor Oil, Apigenin, Oleanolic Acid, Biotinoyl Tripeptide-1
Appearance:	Clear to slightly opalescent liquid
pH:	6.5-8.0
Specilic gravity(20°C):	1.005-1.025
Refractive index(20):	1.420-1.440
Biotinyl-GHK content(%):	0.015-0.030
Apigenin content(%):	0.040-0.055
Oleanolic Acid(%):	0.025-0.035
Rec.use level:	0.5-10%
Application:	Scalp Care, Hair Care
Usage:	Water-soluble, Added at the post-production stage

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2025 Version 1.0

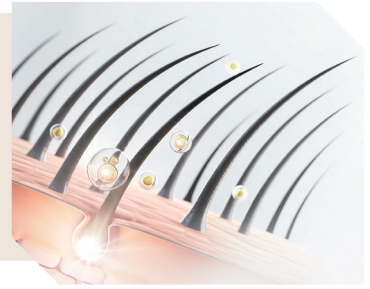
\*Interest in more information, please contact SC Group sales representatives.

## Action Mechanism — Multiple target spot | Holistically Efficacy

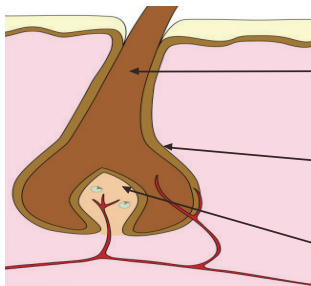
By inhibiting 5 $\alpha$ -reductase (5-AR) enzyme I and II to reduce testosterone (Oleanolic Acid)

Promote blood circulation to hair follicles (Apigenin)

Improve the quality of the hair follicle keratinocytes and stimulate the secretion of the anchoring molecules (Biotinoyl Tripeptide-1 (Biotinyl-GHK))



### Enhanced hair fixation from inside to outside



Biotinoyl Tripeptide-1

Inner root sheath

Increase extracellular matrix such as collagen IV and laminin 5 synthesis, delay hair follicle senescence, improve hair follicle structure, facilitate hair fixation in dermal hair follicles, prevent hair loss

Biotinoyl Tripeptide-1

Outer root sheath

It can activate the expression of tissue repair gene, which is beneficial to the reconstruction and repair of skin structure.

Biotinoyl Tripeptide-1

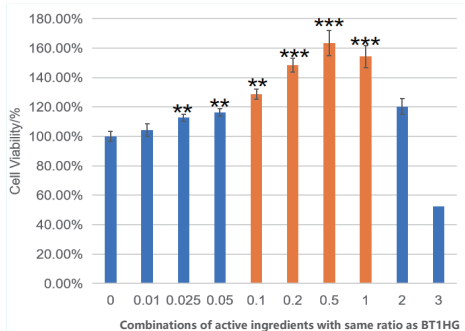
Dermal papilla

Promote cell proliferation and differentiation, stimulate hair growth



### Efficacy

Promote the hDPC (Human Dermal Papilla Cells) proliferation **In Vitro**



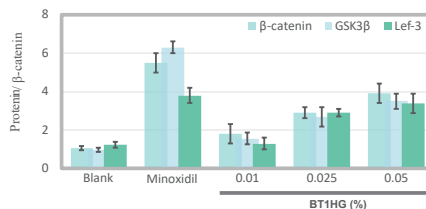
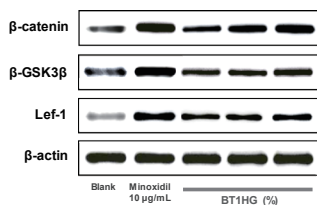
#### Results

- The combination of three active ingredients had the outstanding proliferation ability.
- The better effect at the cell level ranges from **0.05** to **1.0%**, and **0.5** to **10.0%** of SpecKare® BT1HG can be recommended in the formulation.



### Efficacy

Wnt Pathway, Promote the hDPC (Human Dermal Papilla Cells) proliferation **In Vitro**



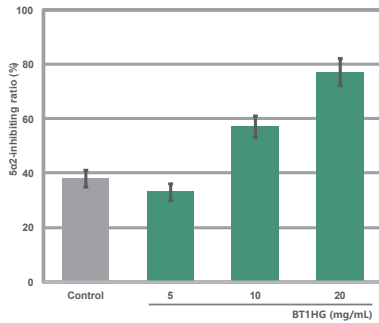
#### Results

- Wnt/ $\beta$ -catenin signaling pathway plays a key role in regulating the formation of hair follicle substrate, dermal papilla function, proliferation and divided of hair follicle stem cells, and hair follicle cycle. WB experiments showed that the composition significantly up-regulated the expression of  $\beta$ -catenin, p-GSK3 $\beta$  and Lef-1 proteins, thereby activating the Wnt pathway in hDPC, thereby mediating the proliferation of hDPC.
- SpecKare® BT1HG can promote the hDPC proliferation, thereby promoting the hair growth.



## Efficacy

Property of inhibiting 5α2 reductase enzymes, Balanced oil secretion **In Vitro**



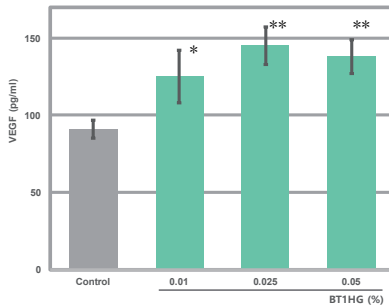
### Results

- The Inhibition ratio of SpecKare® BT1HG can be reached **80%**.
- SpecPed® BT1HG can balance the oil secretion for scalp care.



## Efficacy

Promote VEGF secretion in the hDPC **In Vitro**



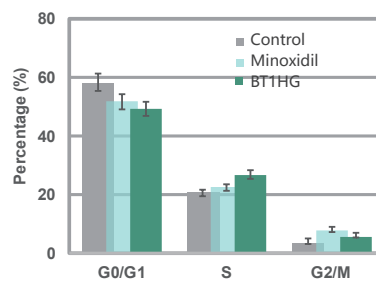
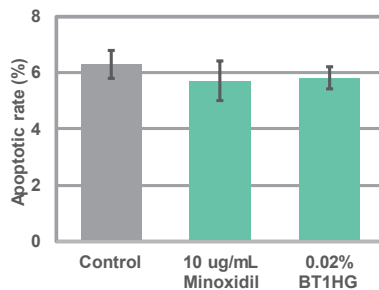
### Results

- Compared with control, SpecKare® BT1HG can significantly promote the VEGF secretion in the hDPC, and the VEGF secretion levels were up to **47%** at 25mg/mL.
- SpecKare® BT1HG helps to form blood capillary in hair follicles.



## Efficacy

Regulate the Growth Cycle of hDPC **In Vitro**



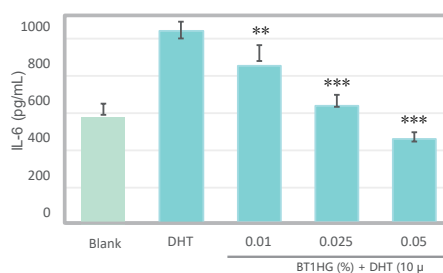
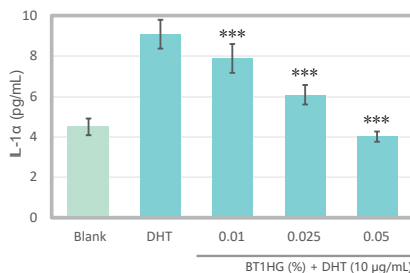
### Results

- Compared with control and Minoxidil, SpecKare® BT1HG can significantly promote the human dermal papilla cells to divide to form new cells, and inhibit the apoptosis of human dermal papilla cells.
- SpecKare® BT1HG can regulate the hair growth cycle, and prevent the hair loss.



## Efficacy

Inflammatory inhibiting effect on hDPC by DHT induced **In Vitro**



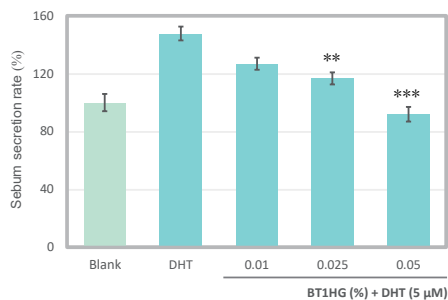
### Results

- DHT stimulates the production of inflammatory cytokines IL-1α and IL-6 by hDPC, affects the levels of extracellular matrix and intracellular cAMP, regulates hair follicle growth, inhibits stromal cell proliferation and hair axis elongation in hair follicles.
- SpecKare® BT1HG can reduce the content of IL-1α and IL-6 in hDPC.



## Efficacy

Inhibiting the sebum secretion on DHT induced SZ95 (Human facial sebaceous gland cells) **In Vitro**



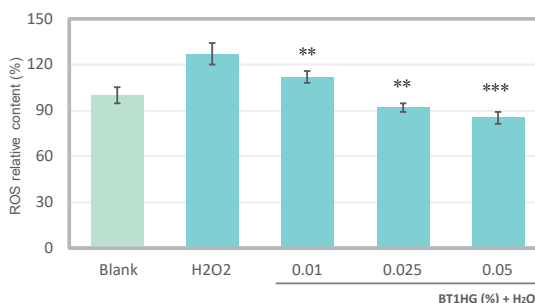
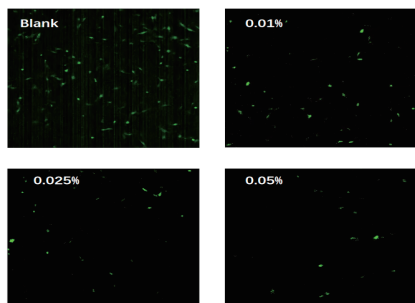
### Results

- SZ95 Sebum cell model was established by Nile red staining to secrete sebum under DHT stimulation.
- **SpecKare® BT1HG significantly inhibited sebum secretion.**



## Efficacy

Inhibiting the production of ROS in the hDPC **In Vitro**



### Results

- SpecKare® BT1HG can significantly scavenged ROS in the hDPC, which decreased by **42%** compared with the H<sub>2</sub>O<sub>2</sub> group.
- **SpecKare® BT1HG can inhibit the production of ROS, and reduce oxidative stress in hair follicle cells.**

## Reference Formula

### Hair Growth Serum Spray

(SC-AC22042501)

w/w%	Product Name	INCI Name
To 100	Water	Water
0.02	Disodium EDTA	Disodium EDTA
6.0	Butylene Glycol	Butylene Glycol
3.0	<b>SpecKare® BT1HG</b>	<b>Butylene Glycol, Aqua, PPG-26-Buteth-26, PEG-40 Hydrogenated Castor Oil, Apigenin, Oleanolic Acid, Biotinoyl Tripeptide-1</b>
0.2	SpecKare® NMF50	Betaine
2.0	SpecPure® Aqua PC (5%)	Poria Cocos Sclerotium Extract, Glycerin, Water
0.03	SpecKare® HA	Sodium Hyaluronate
0.8	PrzvFree® CHP	Caprylhydroxamic Acid, 1,2-Hexanediol, Propanediol
0.25	Solubilisant LRI	PPG-26-Buteth-26, PEG-40 Hydrogenated Castor Oil, Water
0.2	Fragrance	Fragrance
pH~5.0	Sodium Hydroxide (20%)	Sodium Hydroxide

### Appearance

Light yellow liquid pH: 5.0±0.3

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