

Biotinyl-GHK and panthenol

Function:

Eyelash conditioner.

Definition:

Vitaminated matrikine biotinyl-Gly-His-Lys in association with provitamin B5 (panthenol).

Properties:

Widelash™ helps eyelashes appear longer, fuller and stronger.

Characteristics:

Widelash™ promotes hair bulb keratinocyte proliferation and ensures optimal hair anchorage by stimulating the synthesis and organisation of the adhesion molecules laminin 5 and collagen IV.

Points of interest:

The tripeptide GHK, naturally found in the human body, promotes the wound-healing processes.

INCI Name:

Glycerin – Water (Aqua) – Panthenol – Biotinoyl Tripeptide-1

Applications:

Mascaras, eyelash conditioners, eye make-up removers.

Formulation:

Water soluble

Recommended use level:

2%

The eyelashes so longed for



Length +17% up to 43%
 Diameter +19% up to 40%

In vitro tests

Mitosis rate

Evaluation on root sheath keratinocytes after a 14-day culture of hair follicles. Biotinyl-GHK (2 ppm) stimulates Ki-67 expression, indicating enhanced cell proliferation.

Stimulation of hair growth

Hair follicles are incubated for 14 days with biotinyl-GHK 2 ppm and 5 ppm.

Hair anchorage

Hair follicles are incubated for 14 days with biotinyl-GHK (2 ppm).

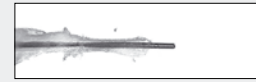
- Morphological observation of the dermis/root sheath junction.

The persisting dermis/root sheath junction is thicker and recovers its normal sinusoidal shape.

- Laminin 5 and collagen IV are revealed by immunofluorescence.

Presence of adhesion molecules		
Adhesion molecules	T14 Control	T14 Biotinyl-GHK
Laminin 5	+	+++
Collagen IV	+	++++

Hair growth stimulation



+58%/T0

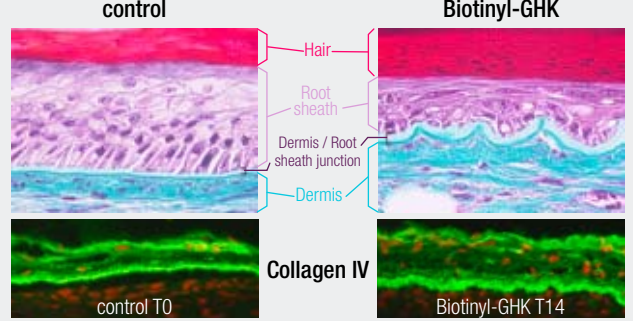
T14 Biotinyl-GHK 2 ppm



+121%/T0

T14 Biotinyl-GHK 5 ppm

Morphological observation



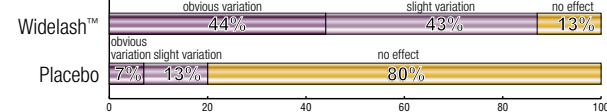
Clinical study

Double-blind clinical study with 30 female volunteers applying daily a Volumising Black Mascara containing 2% Widelash™ on one eye versus Volumising Black Mascara placebo on the other one. Measurements by image analysis at T0, 15 days and 30 days. Evaluation by trained experts and self-evaluation after 30 days.

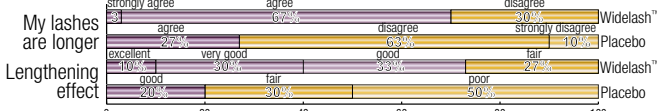
Length of the eyelashes

- T 15 days +11%/T0, p<0.001, up to +32%, x2.6/placebo
- T 30 days +17%/T0, p<0.001, up to +43%, x2.7/placebo

EXPERT EVALUATION



SELF-EVALUATION

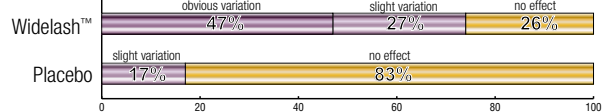


Widelash™ visibly strengthens and lengthens eyelashes.

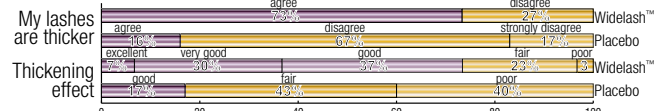
Diameter of the eyelashes

- T 15 days +12%/T0, p<0.001, up to +33%, x2.9/placebo
- T 30 days +19%/T0, p<0.001, up to +40%, x2.6/placebo

EXPERT EVALUATION



SELF-EVALUATION

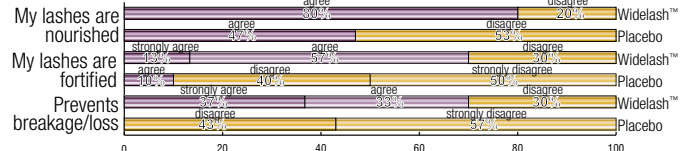


Strengthening effect

Loss of eyelashes:

- T 15 days -3.7 eyelashes/placebo, p<0.001
- T 30 days -9.1 eyelashes/placebo, p<0.001

SELF-EVALUATION



Formulation

Primer mascara with WIDELASH™

Suggested formula Ref.: SED1011911 L

Part A%	Sodium hydroxide 30%	0.35
Water deionized		40.00
Optasense™ G83 (Carbomer, Croda)		0.30
Part B%	Butylene Glycol	3.00
Water deionized	Preservative	qs
PVP K30	Natrosol 250 M (Hydroxyethyl Cellulose, Aqualon)	0.75
Part C%	Alcohol	5.00
Potassium Sorbate		0.10
Part D%	Widelash™ (Sederma)	2.00
Water deionized		3.50

Protocol:

Part A: disperse the carbomer in the water and allow swelling for 1 hour without stirring. Part B: disperse the PVP K30 in the water with rapid helix stirring (s=600 rpm) and keep on stirring for 30 minutes. Add Part C into Part A with helix stirring (s=500 rpm). Add Part D into Part A+C with blade stirring (s=200 rpm). Weigh and mix Part E. Combine Part E with Part B with helix stirring (s=500 rpm). Allow swelling during 30 minutes. Add Part B+E into Part A+C+D with blade stirring (s=200 rpm) mix well. Add Part F and mix well. Check pH. Add Part G, mix well. Add Part H, mix well.

Non-warranty : This formulation has been subject to limited stability tests and has been shown to perform well. However formulators adopting this approach should ensure to their own satisfaction long term stability and functionality. It is good practice to conduct safety tests on all final formulations prior to marketing. Suggested uses should not be taken as an inducement to infringe any existing patents.

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