Haloxyl™

REDUCTION OF DARK CIRCLE PIGMENTATION AND CUTANEOUS REINFORCEMENT

Function and Characteristics:
Association of 2 matrikines: Pal-GHK and Pal-GQPR with N-hydroxysuccinimide (NHS) and a flavonoid: chrysin. HALOXYL lessens under eye dark circles.

Cosmetic interest (properties):
Pal-GHK and Pal-GQPR reinforce firmness and tone of the eye area. Chrysin and N-hydroxysuccinimide activate the elimination of blood originated pigments responsible for dark circle colour and local inflammation.

Applications:
Dark-circle treatments, eye contour care, concealers.

Recommended use level: 2%

Sederma patents: US 6,974,799 - WO 2005/102266
FR 2 869 229 - US 2004/0132667

CTFA / INCI name:
Water (Aqua) - Glycerin - Steareth-20 - N-Hydroxysuccinimide - Chrysin - Palmitoyl Oligopeptide - Palmitoyl Tetrapeptide-7

Specifications:

Appearance	: clear liquid
Colour	: colorless to pale yellow
Odour	: characteristic
pH	: 5.0 - 7.0
Specific gravity (20°C)	: 1.030 - 1.050
Refractive index (25°C)	: 1.350 - 1.370
Water content (K. Fischer)	: 75 - 85%
Chrysin content (HPLC)	: 80 - 120 ppm
Pal GQPR content (HPLC)	: 30 - 60 ppm
Pal GHK content (HPLC)	: 80 - 120 ppm
Bacteria	: < 100 germs/g
Yeasts and moulds	: < 10 germs/g

CLAIM SUBSTANTIATION

IN VITRO

Ability of N-hydroxysuccinimide (NHS) to bind iron: **NHS binds iron to make it soluble for elimination.**

Anti-inflammatory effect (measurement of the decrease of PG□2 release): **HALOXYL demonstrates anti-inflammatory properties similar to those of aspirin.**

Stimulation of expression of UGT:
Cells in culture are incubated for 3 days with chrysin. The gene expression for UGT_1A_1 is determined by RT-PCR.

Chrysin strongly stimulates the expression of the enzyme involved in the clearance of bilirubin (end product of hemoglobin degradation).

Products	Gene Amplification
Chrysin 7.8 µM (eq. 2% HALOXYL)	**+247%**
Chrysin 11.8 µM (eq. 3% HALOXYL)	**+600%**

IN VIVO

Anti-dark circle efficacy:
22 female volunteers have applied to the contour of one eye a gel containing 2% HALOXYL for 56 days against placebo on the other one. The anti-dark circle effect is assessed by image analysis and measurement of the colour parameters (L,a,b system) by a specific software.

b- (blue) b+ (yellow) a- (green) a+ (red)

	Δa	Δb
Variation	-12.5%*	+10%**
Rate of volunteers with improvement	72%	63%
Variation for volunteers with improvement	**-19.5%**	**+19%**

*significatif / T0 (p<0,05) **significatif /T0 (p<0,01)

Red and blue colours of dark circles have significantly decreased by 19%

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