

MSH WHITE™

Victory for a Toned Complexion!

■ Phenylalanine Lipobiovector

■ α-MSH antagonist

■ Tyrosinase inhibition

■ Youth revealing complex

100% lighter age spots*

73% fewer age spots*

83% more radiant complexion*

100% more even toned complexion*

■ Uniform skin! (pigmentation control)

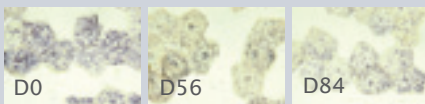
Strong lightening action of MSH WHITE™ at 2% for a uniform complexion

· Lighter areas of hyperpigmentation
Clinical evaluation at 2 and 3 months:
> **80%** of volunteers

· Skin significantly lightened
66% of volunteers
Melanin index of pigmented areas:

-3** (D56/D0) **-4*** (D84/D0)

· D-Squame: decrease of melanic pigments located in corneocytes



Protocol 1*

In low doses, MSH WHITE™, **doubles the lightening action** of ascorbyl glucoside

■ MSH WHITE™ (0.2%)+ Ascorbyl glucoside (2%)

NEW

· Macro photographs

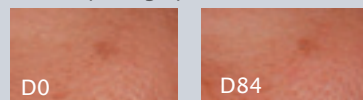


· D-Squame (D84/D0): decrease of melanic pigments located in corneocytes

-13%

■ Ascorbyl glucoside (2%)

· Macro photographs



· D-Squame (D84/D0): decrease of melanic pigments located in corneocytes

-7%

Protocol 2**

■ Visibly luminous skin! (radiant complexion)

After 2 months, MSH WHITE™ at 2% significantly **increases** the luminosity of the complexion (L*) for 73% of volunteers

+1.13*

Protocol 1*

* **Protocol 1**: Study conducted on 30 Asian volunteers/application on the face, 2 times per day for 84 days, using the 6911 formula (2% MSH WHITE™)

*p < 0.05
** p < 0.01



After 2 months, MSH WHITE™ significantly **boosts** the ascorbyl glucoside action

· MSH WHITE™ (0.2%)+ ascorbyl glucoside (2%)

NEW

L* (skin luminosity):

+0.35^(a)**

· Ascorbyl glucoside (2%)
L*: +0.21 (not significant ^(b))

Protocol 2**

****Protocol 2**: Study conducted on 60 Asian volunteers/application on the face, 2 times per day for 84 days, using the EU07205 formula (placebo / 2% ascorbyl glucoside / 2% ascorbyl glucoside + 0.2% MSH WHITE™)

**p < 0.01
(a) significant result/placebo
(b) non-significant result/placebo

■ Skin Perfection in 7 days!

Super-fast action: in 7 days, MSH WHITE™ is the only active ingredient presenting lightening activity & visible radiance of the complexion

	MSH WHITE™	Arbutin	Kojic acid	Hydroquinone
· Lightening action (amount of melanin/control)	-24%	-24%	-33%	-9%
· Illuminating action on the complexion (L* variation/control)	+9%	-1%	0	-2%

Protocol : topical application of active ingredients in formula on reconstructed epidermis of phototype IV
MSH WHITE™ or arbutin or kojic acid: 2% - hydroquinone: 0.1%



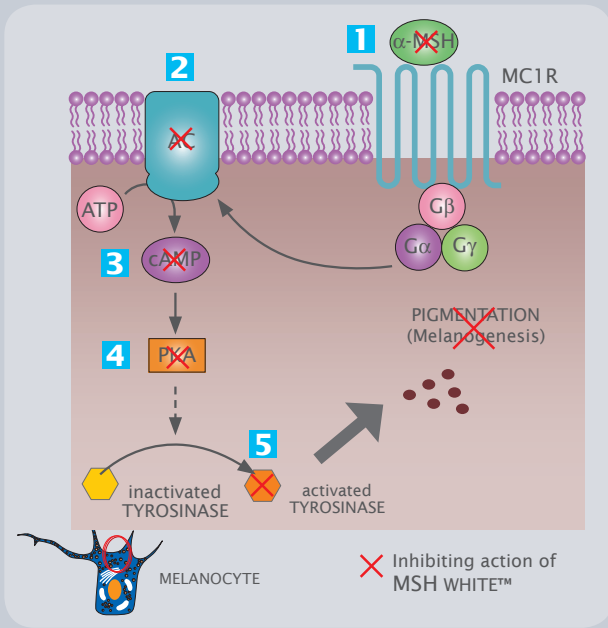
■ ID card

- **INCI Name:** undecylenoyl phenylalanine
- **Pure active ingredient** (white powder)
- **Lipoaminoacid:** vectorized essential amino acid
- **Amphiphilic Structure:** excellent cutaneous bio-affini
- **Can be formulated in all kinds of products**
- **Dose:** from 0.2% (in combination) to 2% (alone)

- **Non-phototoxic** (for use in sunscreen)
- **Preservative-free**
- **ECOCERT**
- **Biodegradable**

A UNIQUE MODE OF ACTION: tyrosinase metabolic inhibition
Inhibits key steps in the α -MSH induced **melanogenic cascade**

α -MSH
ANTAGONIST



Superior activity versus benchmark lightening agents

	1	2	3	4	5	Decreased melanogenesis		
	Affinity for α -MSH receptor	Anti adenylyl cyclase action	Amount of intra-cellular cAMP	Anti-protein kinase A action	Anti-tyrosinase action	A Basal	B α -MSH induced	C UVB induced
MSH WHITE™	96%	-100%	-34%	-100%	-83%	-66%	-145%	-66%
Arbutin	●	●	●	●	-93%	●	-53%	-97%
Kojic acid	●	●	●	●	-94%	●	●	-55%
Magnesium ascorbyl phosphate	●	●	●	●	●	●	●	-53%
Hydroquinone	●	●	●	●	-89%	-100%	-100%	TOXIC

Protocol: **1** Studies conducted on B16/F1 melanocytes. Dosage for active ingredients affinity for α -MSH receptors via immunoradiochemistry.
2 Biochemical model, purified enzyme. Enzyme activity measured by radioactivity.
3 Studies conducted on B16/F1 melanocytes. Dosage for amount of intracellular cAMP via immunochemistry.
4 Biochemical model, purified enzyme. Enzyme activity measured by radioactivity.
5 Biochemical model, purified enzyme. Enzyme activity measured by spectrophotometry.



Protocol: **A** B16/F1 melanocytes incubated with 1 active ingredient for 96 hours.
B B16/F1 melanocytes cultivated in the presence of α -MSH, incubated with 1 active ingredient for 96 hours.
C B16/F1 melanocytes irradiated with UVB light, incubated with 1 active ingredient for 96 hours.
 Amount of intracellular melanin measured by spectrophotometry.

Nota:

The analytical specifications warranted are only those mentioned on the certificate of analysis supplied with each delivery of the product. Except as set forth above, we make no warranties, whether express, implied or statutory, as to the product which is the subject of this document. Without limiting the generality of the foregoing, we make no warranty of merchantability of the product or of the fitness of the product for any particular purpose. Buyer assumes all risk and liability resulting from the use or sale of the product, whether singly or in combination with other goods. The information set forth herein is furnished free of charge and is based on technical data that we believe to be reliable. It is intended for use by persons having technical skill and at their own discretion and risk. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information. Nothing herein is to be taken as a license to operate under or a recommendation to infringe any patents.