NEXT GENERATION PEPTIDES

Developments of new cutting-edge peptide-based drugs and molecules with pharmacological, diagnostic and cosmetic interest.

Nonapeptide-1

INHIBIT MELANIN PRODUCTION AT SOURCE
MAKE SKIN BRIGHT FROM INSIDE OUT
REGULATE THE SKIN BIOLOCK AND WAKE UP SKIN CELLS

Special Chemicals

Special Chemicals

CONTENT

Introduction of Nonapeptide-1

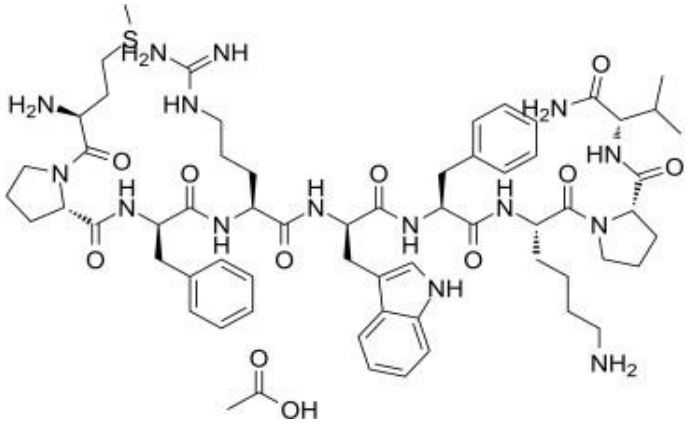


Fig.1 Structure diagram of Nonapeptide-1

Nonapeptide-1 is a bionic peptide that has a good match with the melanocortin 1 receptor (MC1R) on melanocytes, so it can act as a antagonist of melanocyte-stimulating hormones (MSH) and competitively bind to the MC1R, preventing tyrosinase from being further activated to produce melanin.

- Competitively block the receptors and entries of various signal factors on melanocytes.
- Weakened the activity of melanocyte, reducing melanin production.
- Effectively inhibit the production of melanin from the source, brightening skin.

Introduction of Nonapeptide-1

What is melanocyte-stimulating hormones (MSH) ?

Melanocytes in skin make and secrete MSH (α-/β-/γ-) in response to ultraviolet light, where it increases synthesis of melanin.

- Acting through melanocortin 1 receptor (MC1R), α-MSH stimulates the production and release of melanin (melanogenesis) by melanocytes in skin and hair.

- Acting in the hypothalamus, α-MSH suppresses appetite. α-MSH secreted in the hypothalamus also contributes to sexual arousal.

For Animals (In amphibians):
For some animals, such as the claw-toed frog Xenopus laevis (非洲爪蟾), the rate of MSH synthesis increases in a dark/dim environments. This causes pigment to be dispersed in pigment cells in the toad's skin, making it become darker, and harder for predators to spot. The pigment cells are called melanophores and therefore, in amphibians, the hormone is often called melanophore-stimulating hormone (MSH).

Introduction of Nonapeptide-1

What is melanocyte-stimulating hormones (MSH) ?

For Humans:

The different forms of MSH (α-MSH, β-MSH, and γ-MSH) and Adrenocorticotropic Hormone (ACTH) belong to a group called the melanocortins (MC). α-MSH is the most important melanocortin for pigmentation.

Melanocytes in skin make and secrete MSH in response to ultraviolet light, where it increases synthesis of melanin. Some neurons in arcuate nucleus of the hypothalamus make and secrete α-MSH in response to leptin.

Nonapeptide-1	H-Met-Pro-Phe-Arg-Trp-Phe-Lys-Pro-Val-NH2
α-MSH:	Ac-Ser-Tyr-Ser-Met-Glu-His-Phe-Arg-Trp-Gly-Lys-Pro-Val
β-MSH (human):	Ala-Glu-Lys-Lys-Asp-Glu-Gly-Pro-Tyr-Arg-Met-Glu-His-Phe-Arg-Trp-Gly-Ser-Pro-Pro-Lys-Asp
β-MSH (pig):	Asp-Glu-Gly-Pro-Tyr-Lys-Met-Glu-His-Phe-Arg-Trp-Gly-Ser-Pro-Pro-Lys-Asp
γ-MSH:	Tyr-Val-Met-Gly-His-Phe-Arg-Trp-Asp-Arg-Phe-Gly

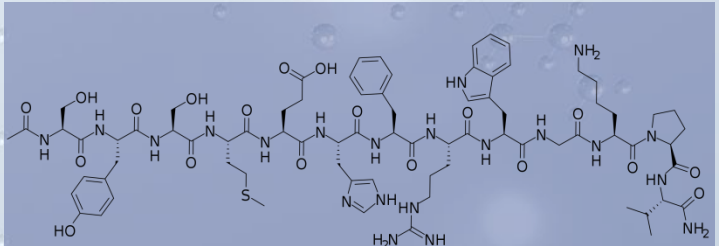


Fig.2 Structure diagram of α-MSH

Introduction of Nonapeptide-1

EWG's Skin Deep®

Best 1 2 3 4 5 6 7 8 9 10 Worst

EWG VERIFIED™

NONAPEPTIDE-1

Click here for all products containing this ingredient

Score:

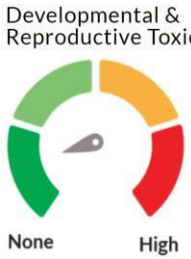
1

Data: None

Other Concerns | Functions

About the Chemical | Synonyms

Nonapeptide-1 is a synthetic peptide consisting of Arginine (q.v.), Lysine (q.v.), Methionine(q.v.), Phenylalanine (q.v.), Proline (q.v.), Tryptophan (q. v.) and Valine (q.v.).



Nonapeptide-1 doesn't show obvious risks regarding cancer, developmental & reproductive toxicity and allergies & immunotoxicity.

Product Information Nonapeptide-1

NICI Name:	Nonapeptide-1
No. CAS:	158563-45-2
Application:	Whitening, anti-spot and etc.
Dosage:	0.0001-0.1% (daily use) 2.0% (Existing max dosage for leave-on product in China Inventory 2021 version)
Storage:	Store in Cool and dry place, protect from light, 2-8℃ for common storage, long time storage: -20℃
Shelf life:	2 years
Package:	1g, 10g or customization

Product Information Nonapeptide-1

Items	Specification
Appearance	White to off-white powder
Molecular Ion Mass	1206.6±1
Purity (HPLC)	≥95.0%
Single impurity (HPLC)	<3.0%
Acetic acid (HPLC)	≤15.0%
Water Content (Karl Fischer)	≤10.0 %
Lead (mg/kg)	≤10
Arsenic (mg/kg)	≤2
Mercury (mg/kg)	≤1
Cadmium (mg/kg)	≤5
Total plate count (cfu/g)	≤1000

Introduction of Nonapeptide-1

Regulation status of Nonapeptide- 1 in chemicals:

Region/ Country	Listing	Status	Compliance assessment
China	IECSC - Inventory of Existing Chemical Substances in China	Not listed	Non-Compliable
European Union	EINECS - European Inventory of Existing Commercial Chemical Substances,	Not listed	Exempted if < 1t/y
UK	ELINCS - European List of Notified Chemical Substances， and NLP-No-longer Polymers List	Not listed	Exempted if < 1t/y
Canada	DSL - Canada Domestic Substances List	Not listed	Compliable
	NDSL - Canada Non-Domestic Substances List	Not listed	
	R-ICL - Revised In Commerce List	Listed	
Philippine	PICCS - Philippine Inventory of Chemicals and Chemical Substances	Not listed	Non-Compliable
New Zealand	NZIoC - New Zealand Inventory of Chemicals	Not listed	Exempted if non-hazardous
Australia	AIIC - Australian Inventory of Industrial chemicals	Not listed	Non-Compliable
South Korea	KECL- Korean Existing Chemicals List	Not listed	Exempted as raw materials for cosmetics
China Taiwan	TCSI - Taiwan Chemical Substance Inventory	Listed	Exempted if < 0.1t/y
Swiss	EINECS - European Inventory of Existing Commercial Chemical Substances	Not listed	Exempted if < 1t/y
USA	TSCA Inv - Toxic Substances Control Act Chemical Substance Inventory	Not listed	Non-Compliable
JAPAN	ENCS- Inventory of Existing and new chemical substances	Not listed	Non-Compliable
	ISHL- Japan ISHL Existing Substances List	Not listed	Non-Compliable
Thailand	TECI - Thailand Existing Chemical Substance Inventory	Not listed	Non-Compliable
	Thailand Hazardous Substances List	Not listed	Exempted if < 1 tpa or non-hazardous
Vietnam	NCI - Vietnam National Chemical Inventory	Not listed	Non-Compliable
Malaysia	EHS Reference List	Not listed	Exempted if < 1t/y or non-hazardous
Turkey	None	N/A	Exempted if < 1t/y
Russia	Inventory of chemicals in the Russian Federation	Listed	Compliable
Singapore	List of controlled hazardous substances	Not listed	Compliable
Brazil	No inventory established yet	N/A	Exempted if the mean amount of the past 3 years < 1t/y
Indonesia	List of Hazardous and Toxic Material (B3)	Not listed	Compliable
South Africa	Department of Environmental Affairs (DEA): prohibited or controlled substances (asbestos & Polychlorinated Biphenyls (PCBs))	Not listed	Compliable
	Department of Health (DOH): Group I: industrial chemicals (IA) and pesticides (IB)	Not listed	

Introduction of Nonapeptide-1

Region/ Country	Listing	Status	Approval status
Canada	List of Ingredients that are Prohibited for Use in Cosmetic Products	Not listed	Approved
	List of Ingredients that are Restricted for Use in Cosmetic Products	Not listed	
USA	Prohibited & Restricted Ingredients in Cosmetics	Not listed	Approved
	CTFA-International Cosmetic Ingredient Dictionary and Handbook	Listed	
European Union	Inventory of Ingredients	Listed	Approved
	Annex II List of substances prohibited in cosmetic products	Not listed	
	Annex III List of substances which cosmetic products must not contain except subject to the restrictions laid down	Not listed	
UK/ Switzerland/ ISRAEL	Refer to EU ingredient data	Not prohibited or restricted	Approved
China	Inventory of Existing Cosmetic Ingredients in China (China IECIC)	Listed	Approved
	List of prohibited ingredients or plant (animal) ingredients for cosmetics	Not listed	
	List of restricted ingredients in cosmetics	Not listed	
Japan	List of prohibited and restricted ingredients in cosmetics	Not listed	Approved
New Zealand	Cosmetic Products Group Standard: Schedule 4 – Components Cosmetic Products Must Not Contain & Schedule 5: Components Cosmetic Products Must Not Contain Except Subject To The Restrictions And Conditions Laid Down	Not listed	Approved
Australia	Banned or restricted chemicals in consumer products and cosmetics	Not listed	Approved
South Korea	Prohibited or restricted ingredients for cosmetics	Not listed	Approved
China Taiwan	List of Prohibited or Restricted Ingredients	Not listed	Approved
ASEAN (Indonesia, Malaysia, Philippines, Singapore, Thailand, Brunei, Laos, Myanmar, Cambodia and Vietnam)	List of substances which must not form part of the composition of cosmetic products	Not listed	Approved
	List of substances which cosmetic products must not contain except subject to restrictions and conditions laid down	Not listed	
Russia	List of substances prohibited for use in perfumery and cosmetic products	Not listed	Approved
	List of substances permitted for use subject to the specified restrictions in perfumery and cosmetic products	Not listed	
MERCOSUR (Argentina, Brazil, Paraguay, Uruguay, Venezuela)	List of substances that personal hygiene products, cosmetics, and perfumes should not contain, except under the conditions and with the established restrictions	Not listed	Approved
HK	No positive / negative list existed in HK	N/A	Approved

Product Information Nonapeptide-1

The Acting Mechanism of Nonapeptide-1:

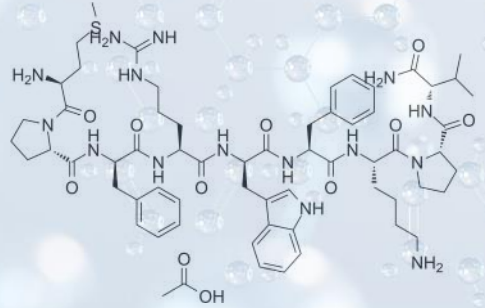


Fig.1 Structure diagram of Nonapeptide-1

H-Met-Pro-Phe-Arg-Trp-Phe-Lys-Pro-Val-NH2

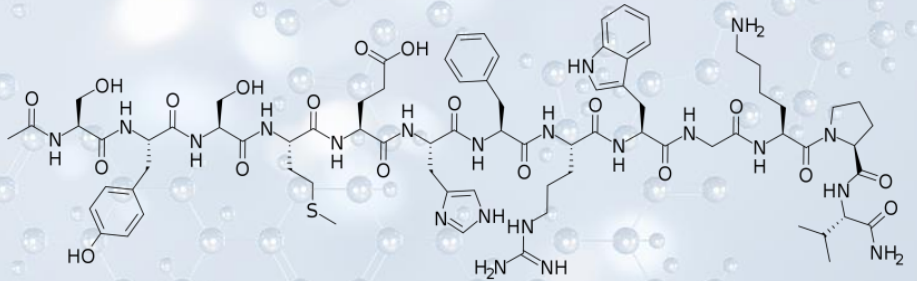
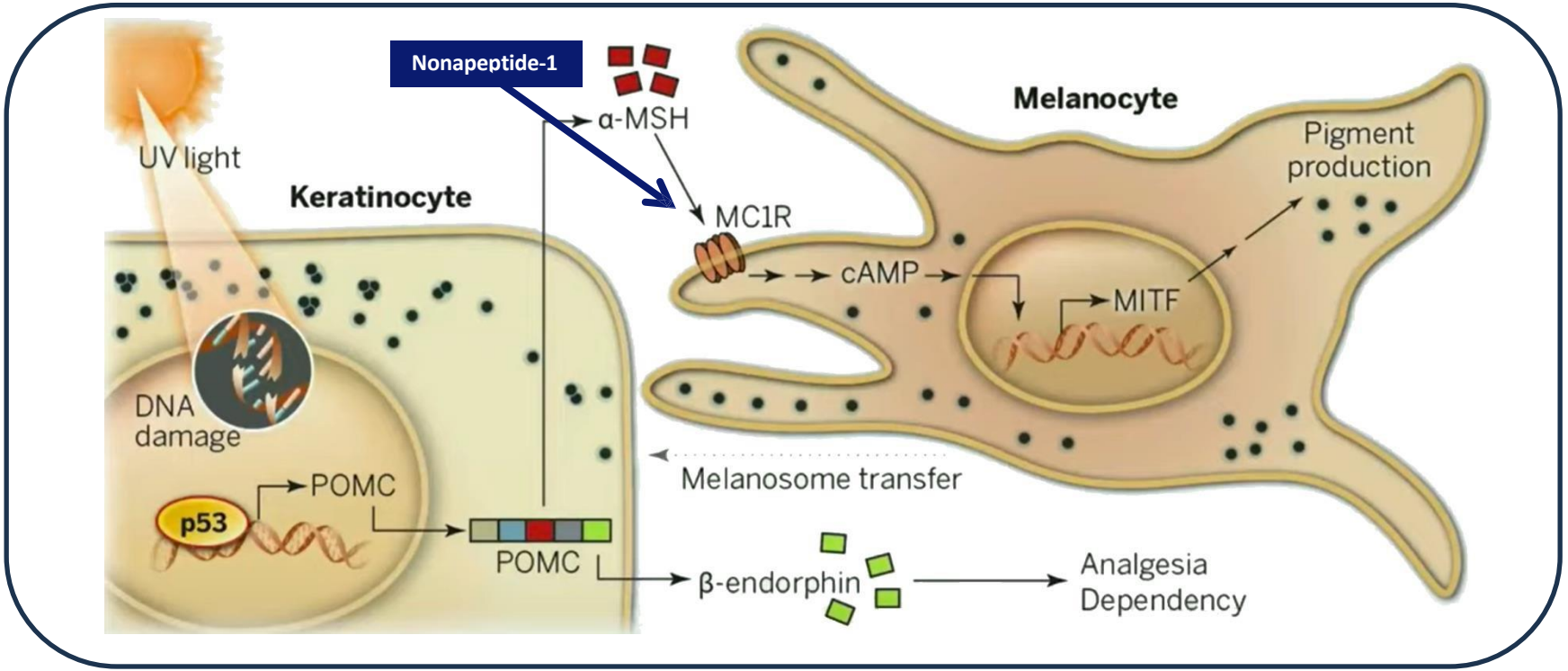


Fig.2 Structure diagram of α-MSH

Ac-Ser-Tyr-Ser-Met-Glu-His-Phe-Arg-Trp-Gly-Lys-Pro-Val

Product Information Nonapeptide-1

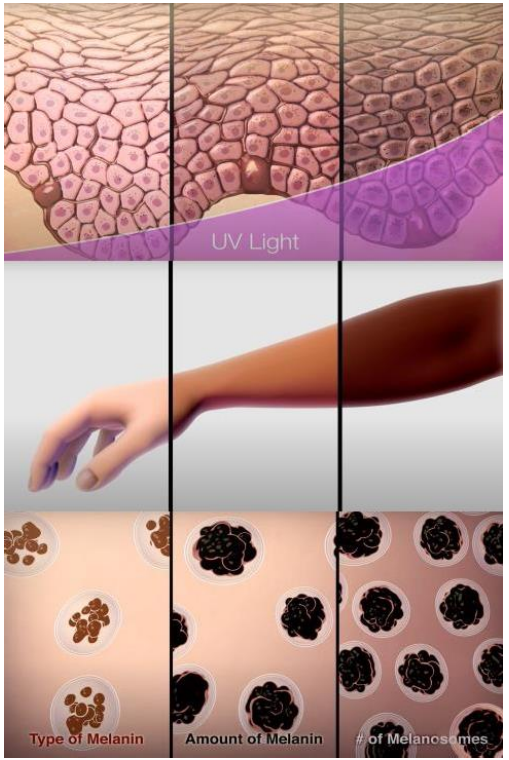
The Acting Mechanism of Nonapeptide-1:



Product Information Nonapeptide-1

Features of Nonapeptide-1:

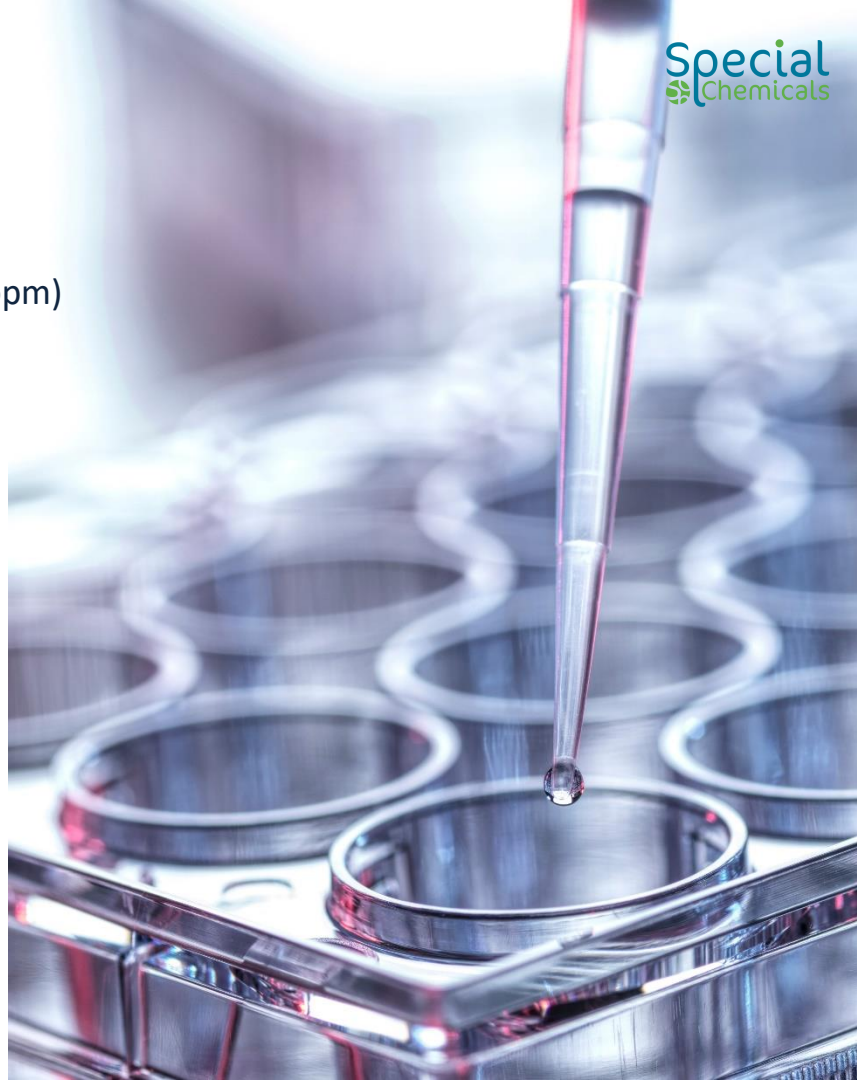
- Biomimetic and Potent α-MSH antagonists (with an IC50 value of 11±7 nM).
- Competitively binding MC1R and blocking α-MSH to bind MC1R, reducing the production of melanin;
- Work fast through directly inhibiting melanin-forming pathways in melanocyte, ahead of activation of tyrosinase;
- Not only inhibit overproduction of melanin, but also reduces melanin deposition;
- Tackle the root of lightening problems, brightening skin inside out;
- Help energizing mitochondria and regulates circadian rhythms;
- Can be used day or night for daily skin care.



Efficacy Study Nonapeptide-1

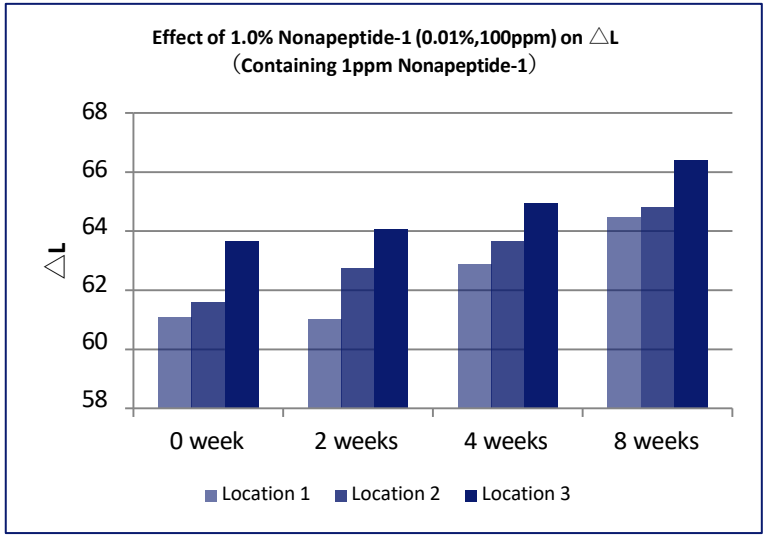
Clinical Test-Lightening test of 1%/5% Nonapeptide-1 (0.01%)

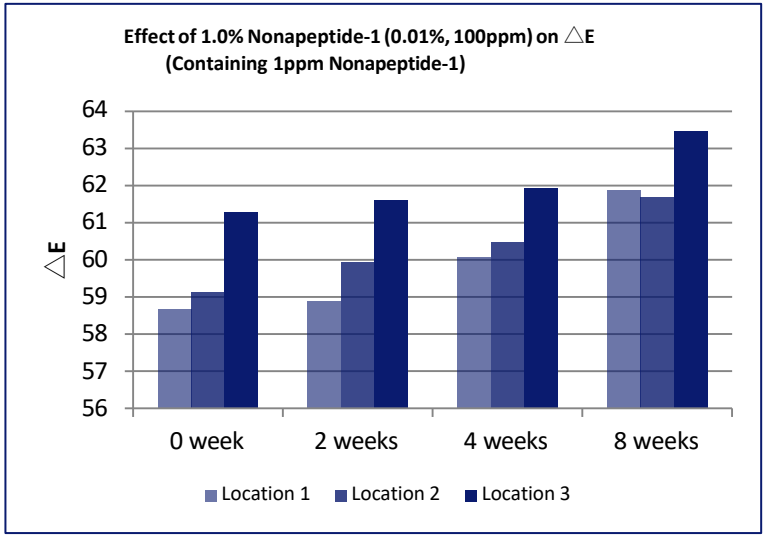
Test Sample	Gel containing Nonapeptide-1 (0.01%, 100ppm)
Test Concentration:	1.0% and 5.0% (as is) (0.01%, 100ppm) equals to 0.0001%; 0.0005%
Test Subjects ：	17 females for 0.0001% ; 21 females for 0.0005%
Subject Ages:	25 – 55 Years Old
Test Site ：	Facial
Test Duration ：	Twice/day, apply on face after cleansing process Eight weeks (2016.07.25 - 2016.09.20)
Test Time ：	
Test Conditions:	Temp.: 20℃ -25 ℃; RH: 40%-60%
Test Parameters ：	△L indicating skin lightening △E indicating comprehensive state of skin, including brightness, gloss, smoothness, etc.



Efficacy Study Nonapeptide-1

Clinical Test-Lightening test of 1% Nonapeptide-1 (0.01%) (active:Nonapeptide-1-0.0001%)





the higher the △L value indicates the better skin lightening effect, the higher △E indicates the better comprehensive skin performance.

Summary:

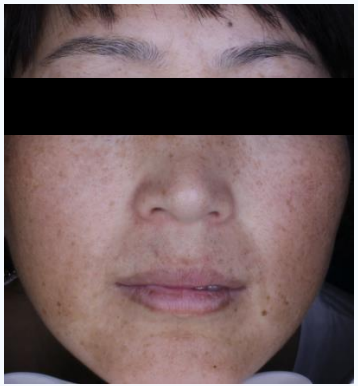
- The average value of △L was 62.11 before use. After using for 28 days, the △L increased by 5.01% at the 56th day compared with initial state.
- The average value of △E was 59.69 before use. After using for 28 days, the △E increased by 4.43% at the 56th day compared with initial state.

Efficacy Study Nonapeptide-1

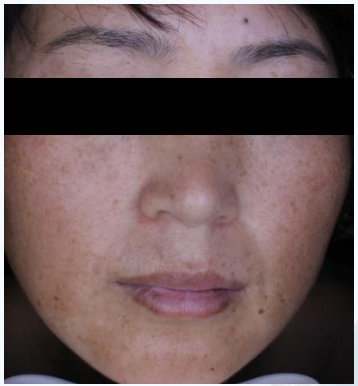
Clinical Photos-Lightening Test (Typical Subject)

1.0% Nonapeptide-1 (0.01%,100ppm) , Equals to Nonapeptide-1—at 0.0001%

0day



14days

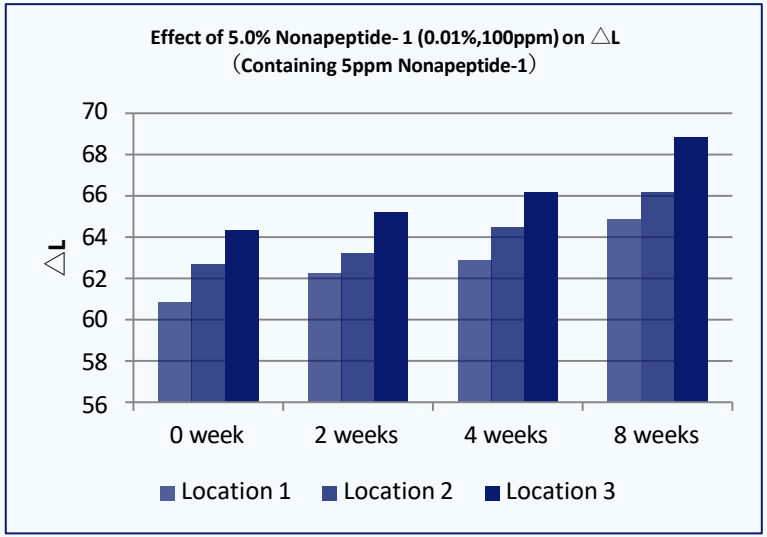


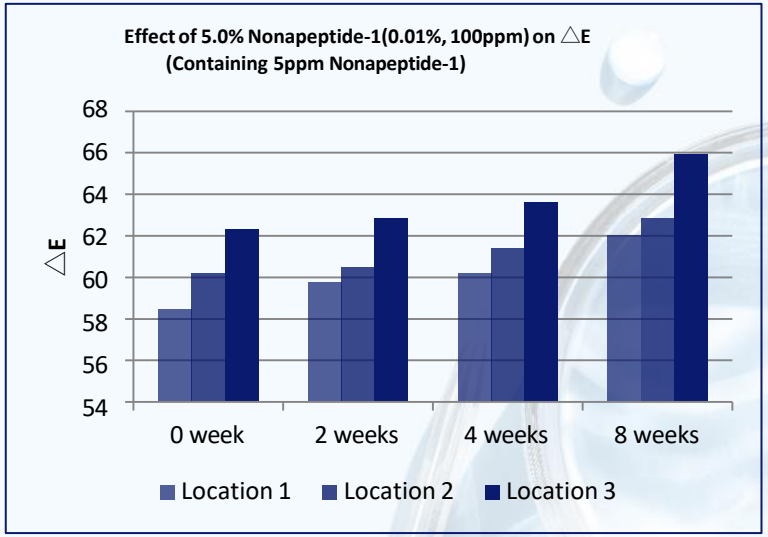
28days

56days

Efficacy Study Nonapeptide-1

Clinical Test-Lightening test of 5% Nonapeptide 1 (0.01%) (active: Nonapeptide-1-0.0005%)





the higher the △L value indicates the better skin lightening effect, the higher △E indicates the better comprehensive skin performance.

Summary:

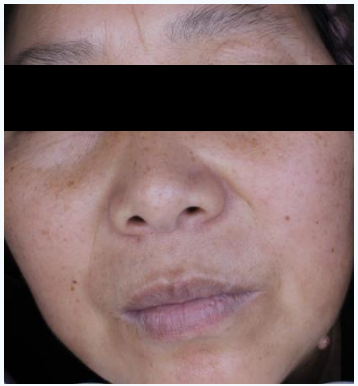
- The average value of △L was 62.61 before use. After using for 28 days, the △L increased by 6.42% at the 56th day compared with initial state.
- The average value of △E was 60.33 before use. After using for 28 days, the △E increased by 5.39% at the 56th day compared with initial state.

Efficacy Study Nonapeptide-1

Clinical Photos-Lightening Test (Typical Subject)

5.0% Nonapeptide-1 (0.01%,100ppm) , Equals to Nonapeptide-1 at 0.0005%

0day



14days

28days

56days

Efficacy Study Nonapeptide-1

Combination Nonapeptide 1 VS sunscreen in melasma

Methods: It was a prospective double-blinded parallel-group randomized controlled pilot study. A total of 46 subjects were recruited by consecutive sampling methods and randomized to 23 each in case and control groups. The study period was eight months with **three phases:** Phase 1 constituted the application of triple combination for eight weeks by both groups followed by phase 2 with the case group applying testing combination and the control group applying sunscreen. Phase 3 was a follow-up period to see the sustenance of results in both groups as well as any evidence of relapses. Sunscreen was applied in all three phases.

Instrument: Mexameter® MX 18 (CK)

Phase 1

For the first eight weeks of treatment, both the case group and control group received once a day application of triple combination therapy of tretinoin (0.05%), fluocinolone acetonide (0.01%) and hydroquinone (4%) in the evening for overnight use and sunscreen (SPF 30 with physical blockers)(composition: avobenzone 2 %w/w+octocrylene 3 %w/w+octyl methoxycinnamate 7.5 %w/w+oxybenzone 3%w/w+zinc oxide 2 %w/w) every 3 hourly starting from the morning till 5 PM (last application of day) The total number of visits during phase 1 was 3 **(visit 1 - baseline, visit 2 and visit 3)** with an interval of 4 weeks ± 3 days. Both groups were advised to apply 3 mL of sunscreen onthe face spreading it evenly to cover the entire area on a specified time interval. Both groups were told to apply triple combination only onthe affected area.

Phase 2

Thereafter, the case group received the study formulation i.e.,phenyl ethyl resorcinol, **nonapeptide-1,** aminoethyl phosphinic acid, antioxidants andsunscreen for 16 weeks to be applied in the morning and afternoon at 08:00 hours and 14:00 hours and the control group received the placebo i.e.,sunscreen to be applied at the same times. The total number of visits during phase 2 was 4 **(visit 4, visit 5, visit 6 and visit 7)** with an interval of 4 weeks ± 3 days.

Phase 3

Both the case and control groups had a follow-up phase where the study subjects did not receive any therapy for melasma. The total number of visits during phase 3 was 1 **(visit 8)** with an interval of 8 weeks ± 3 days.

Efficacy Study Nonapeptide-1

Combination containing Nonapeptide 1 VS sunscreen in melasma

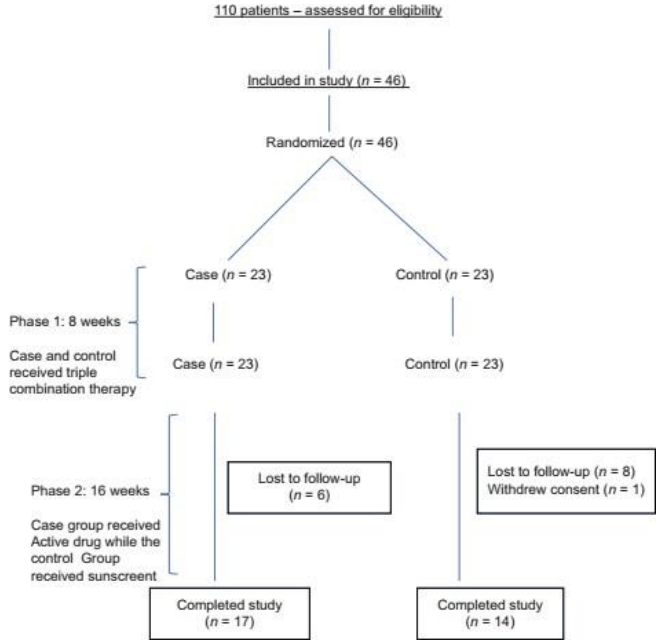


Fig.1 Study flow chart according to Consolidated Standards of Reporting Trials (CONSORT)

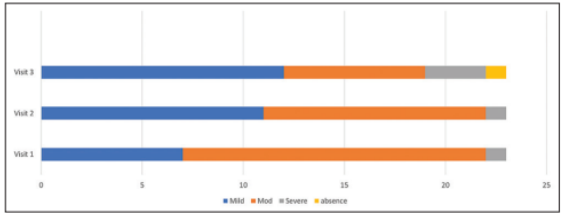


Fig.2 Change in melasma severity in case group in phase 1

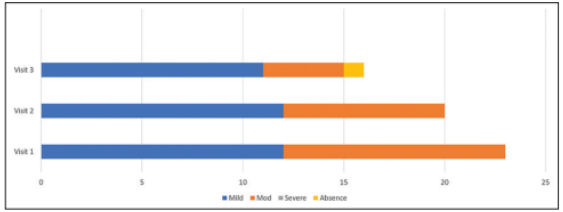


Fig.3 Change in melasma severity in the control group in phase 1

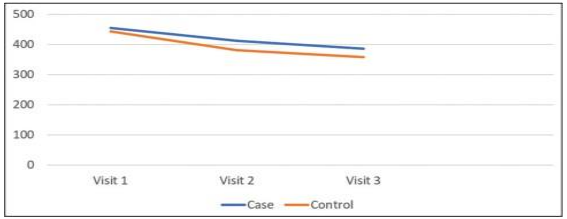


Fig.4 Change in mean melanin content as assessed by mexameter in phase 1 in case and control group

Summary:

- Figures 2 and 3 represents change in melasma severity during phase 1 when both the groups received triple combination therapy.
- 'P' value at visit 1 between treatment groups is 0.23 and visit 3 is 0.32, suggesting both groups were homogenous at the beginning and end of phase 1.
- Mean melanin content in both groups during phase 1 is represented in Figure 4. There was no statistical difference between the case group and the control group at visit 1 (P-value: 0.7223) and visit 3 (P-value: 0.3863). Hence, the data shows the homogeneity between the groups with mean melanin content as measured by mexameter.

Efficacy Study Nonapeptide-1

Combination containing Nonapeptide- 1 VS sunscreen in melasma

Table 1: Mexameter reading visit-wise P values evaluation

Statistical parameter	Group A (*n*=23)	Group B (*n*=23)	P#
Visit 1			
n	23	23	
Missing	0	0	
Mean±SD	453.9 (110.06)	442.6 (104.49)	0.7223
Median (minimum–maximum)	431.3 (272–689)	419.3 (281–743)	
Visit 2			
n	23	20	
Missing	0	0	
Mean±SD	411.2 (110.86)	381.2 (101.12)	0.3615
Median (minimum–maximum)	402.0 (230–649)	354.0 (178–590)	
Change from Visit 1			
n	23	20	
Missing	0	3	
Mean±SD	−42.7 (60.49)	−64.6 (80.85)	
Median (minimum-maximum)	−42.7 (−183–111)	−42.2 (−355–14.0)	
*P**	0.0027	0.0020	
Visit 3			
n	21	16	
Missing	0	0	
Mean±SD	385.5 (123.75)	358.2 (62.14)	0.3863
Median (minimum-maximum)	346.0 (204–665)	349.2 (225–473)	
Change from Visit 1			
n	21	16	
Missing	2	7	
Mean±SD	−75.7 (81.90)	−74.3 (89.43)	
Median (minimum-maximum)	−56.7 (−273–40.3)	−58.5 (−312–46.3)	
*P**	0.0004	0.0046	

#Two sample *t*-test is used, *Paired *t*-test is used, change=Visit j –Visit 1; j=2,3. SD: Standard deviation

Table 2: Evaluation of melanin content at Visit 3, Visit 4, of melanin content at visit 1, visit 2 and visit 3

Statistical parameter	Group A (*n*=23)	Group B (*n*=23)	P
Visit 3			
n	21	16	
Missing	0	0	
Mean±SD	385.5 (123.75)	358.2 (62.14)	0.3863
Median (minimum–maximum)	346.0 (204–665)	349.2 (225–473)	
Visit 4			
n	20	15	
Missing	0	0	
Mean±SD	426.1 (116.16)	412.0 (79.25)	0.6884
Median (minimum–maximum)	414.8 (262–673)	416.8 (283–563)	
Change from Visit 3			
n	20	15	
Missing	1	1	
Mean±SD	48.1 (76.47)	52.8 (69.60)	
Median (minimum-maximum)	52.4 (−120–231)	52.7 (−138–158)	
*P**	0.0111	0.0108	
Visit 5			
n	17	14	
Missing	0	0	
Mean±SD	441.1 (98.68)	425.5 (94.80)	0.6604
Median (minimum–maximum)	438.2 (315–651)	401.0 (284–682)	
Change from Visit 3			
n	17	14	
Missing	4	2	
Mean±SD	73.2 (85.11)	98.3 (69.82)	
Median (minimum–maximum)	65.0 (−55–244)	85.6 (22.3–288)	
*P**	0.0070	0.0027	

Visit 5, Visit 6, Visit 7 and Visit 8

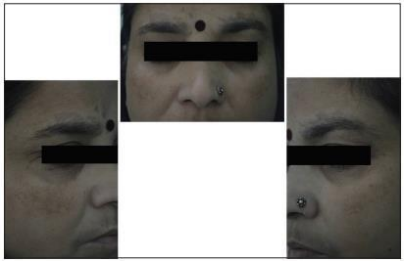
Visit 6			
n	17	14	
Missing	0	0	
Mean±SD	445.2 (93.21)	432.9 (93.88)	0.7180
Median (minimum–maximum)	432.7 (318–619)	413.6 (285–662)	
Change from Visit 3			
n	17	14	
Missing	4	2	
Mean±SD	73.2 (85.11)	98.3 (69.82)	
Median (minimum–maximum)	65.0 (−55–244)	85.6 (22.3–288)	
*P**	0.0025	0.0007	
Visit 7			
n	17	14	
Missing	0	0	
Mean±SD	441.6 (101.88)	435.1 (95.25)	0.6604
Median (minimum–maximum)	412.0 (269–630)	401.8 (285–641)	
Change from Visit 3			
n	17	14	
Missing	4	2	
Mean±SD	73.2 (85.11)	98.3 (69.82)	
Median (minimum–maximum)	65.0 (−55–244)	85.6 (22.3–288)	
*P**	0.0079	0.0002	
Visit 8			
n	17	14	
Missing	0	0	
Mean±SD	462.5 (94.98)	455.2 (110.81)	0.8445
Median (minimum–maximum)	468.3 (307–610)	420.7 (297–719)	
Change from Visit 3			
n	17	14	
Missing	4	2	
Mean±SD	73.2 (85.11)	98.3 (69.82)	
Median (minimum–maximum)	65.0 (−55–244)	85.6 (22.3–288)	
*P**	0.0027	0.0002	

#Two sample *t*-test is used, *Paired *t*-test is used, change=Visit j –Visit 3; j=4, 5, 6, 7, 8. SD: Standard deviation

Efficacy Study Nonapeptide-1

Combination containing Nonapeptide-1 VS sunscreen in melasma

Case group subject 1 (visit 1)



Case group subject 1 (visit 3)

Case group subject 1 (visit 8)

Case group subject 2 (visit 1)

Case group subject 2 (visit 3)

Case group subject 3 (visit 8)

Efficacy Study Nonapeptide-1

Combination containing Nonapeptide-1 VS sunscreen in melasma

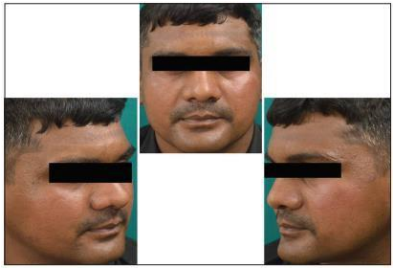
Control group subject 1 (visit 1)

Control group subject 1 (visit 3)

Control group subject 1 (visit 8)

Control group subject 2 (visit 1)

Control group subject 2 (visit 3)



Control group subject 3 (visit 8)

Efficacy Study Nonapeptide-1

Combination containing Nonapeptide-1 VS sunscreen in melasma

Table 3: Adverse events in phase 1 and phase 2

Event	Study Phase 1	
	Case (*n*=21), *n* (%)	Control (*n*=16), *n* (%)
Skin burning sensation without any lesion	1 (4.76)	1 (6.25)
Allergic contact dermatitis	0	1 (6.25)
Xerosis	0	1 (6.25)
Erythema	1 (4.76)	0
Pruritus	1 (4.76)	0
Event	**Study Phase 2**	
	Case (*n*=17), *n* (%)	Control (*n*=15), *n* (%)
Pruritus	1 (5.88)	1 (6.66)
Allergic contact dermatitis	0	1 (6.66)
Skin burning sensation without any lesion	0	1 (6.66)
Erythema	0	1 (6.66)

Conclusion:

- In this pilot study, the formulation containing nonapeptide-1 was found to be more effective as compared to the control (sunscreen) arm for maintenance of remission of melasma achieved by triple combination therapy.
- It also has the added benefit of minimal adverse effects.
- It can be used for prolonged periods for maintenance of melasma therapy in place of sunscreens with better results as compared to sunscreen alone.
- It can be used with the same periodicity as sunscreen and reduces the relapse of melasma.
- Its periodicity of use essentially ensures that melasma remains under better control with no added inconvenience to the patient.

Chatterjee, et al. Indian Journal of Dermatology, Venereology and Leprology . Volume 88 , Issue 1, January-February 2022:51-58.

Application Guide of Nonapeptide-1

Test Formulation— 1%/5% Nonapeptide-1 Whitening Gel

	Product Name	INCI Name	w/w%	Function
A	Hydroxyethyl acrylate / sodium acryloyldimethyl taurate copolymer		1.2	Stabilizer
	Dicaprylyl Carbonate		2.0	Emolient
		Glyceryl Linoleate, Glyceryl Oleate, Glyceryl Linolenate	1.0	Emolient
	Ethylhexyl Ethylhexanoate		2.0	Emolient
	C26-28 alkyl dimethicone		0.2	Stabilizer
		Tocopheryl Acetate	0.2	Antioxidant
B	Glycerin		8.0	Humectant
		Xanthan Gum	0.18	Stabilizer
		Acrylates/c10-30 alkyl acrylate crosspolymer	0.15	Stabilizer
		Allantoin	0.1	Conditioning Agent
	Glyceryl Polyacrylate		6.0	Stabilizer
	Water		To 100	
	Disodium EDTA		0.05	Chelating Agent
		Sodium Hyaluronate	5.0	Humectant
		Betain	2.0	Humectant
C	Sodium Hydroxide (1%Liquid)		pH to 6-6.5	pH Adjuster
D		Dipotassium glycyrrhizinate	0.2	Anti-allergic Agent
		Caprylyl Glycol & Phenoxyethanol	0.8	Preservative
	Fragrance		0.1	
	Nonapeptide-1 (0.01%)	**Nonapeptide-1;** Water; Glycerin; Caprylyl Glycol; Ethylhexylglycerin	1/5	Whitening Agent

Nonapeptide-1

Procedure:

1. Disperse Acrylates/C10-30 Alkyl Acrylate Crosspolymer evenly on the surface of hot water at 85℃, stirring until completely dissolved;
2. Disperse Xanthan Gum in glycerin, add other ingredients in Phase B , and stir well at 85℃;
3. Heat Phase A to 85℃, mix A&B, homogenize for 2minutes, cool and stir;
4. Until the base below 60℃, add Phase C to above sample; cool the base below 45℃, add Phase D, stirring until room temperature.

Properties:

Appearance: Whitening Gel
pH: 6.0±0.5 (1:10 Aquous Solution)
Viscosity: 20000±2000
(25 ℃, 4 #, 30 rpm,
mpa·s) Stability: A
month @45 ℃、- 18 ℃

Feature:

Anti-spot & Whitening

Special Chemicals

Application Guide of Nonapeptide-1

USER GUIDE:

Compatibility:
Can be compatible with other lightening actives at weakly acidic pH range (4.0-7.0). Not recommend to use with formaldehyde-releasing preservatives.

Recommended dosaje:
for peptide powder-Nonapeptide 1: 0.0001-0.1%, higher dosage varies according to countries. for peptide solution-Nonapeptide 1: 1.0-8.0%, higher dosage varies according to countries.

Recommended pH range 4-7. Water-soluble,

Recommended Process:
Recommend to add below 45℃ at last step during process

Application:
Toner, lotion, serum and cream; day and night

THANK YOU!

Thank you for your interesting and attention!

If you need sample and technical data, please contact us without hesitation

Special Chemicals

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