

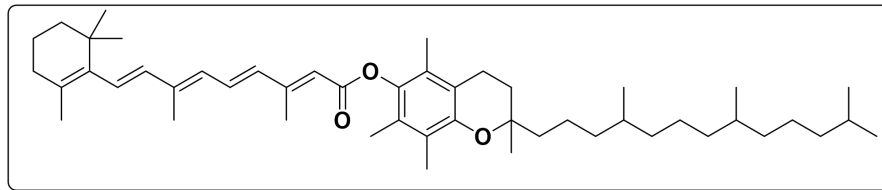


Anallerg® -- Vitamika® — A Novel Anti-aging Vitamin A Derivative

INCI: Tocopheryl Retinoate

Anallerg[®] -- Vitamika[®]

Technical Information



- **Product name:** **Anallerg[®] -- Vitamika[®]**
- **INCI:** Tocopheryl Retinoate
- **Appearance:** Yellow to pale yellow oily liquid (10% version)
- **Specification:** 10% (The carrier is **caprylic/capric triglyceride**)
- **Recommended dosage:** Recommended 1.0-5.0%
- **Formula suggestions:** Suitable for essences, lotions, creams and oil-based products
- **Application:** Anti-aging, anti-wrinkle, thicken epidermis, improve skin texture, antioxidant, and reduce pigmentation
- **Registration number (CHINA) :** 20230019

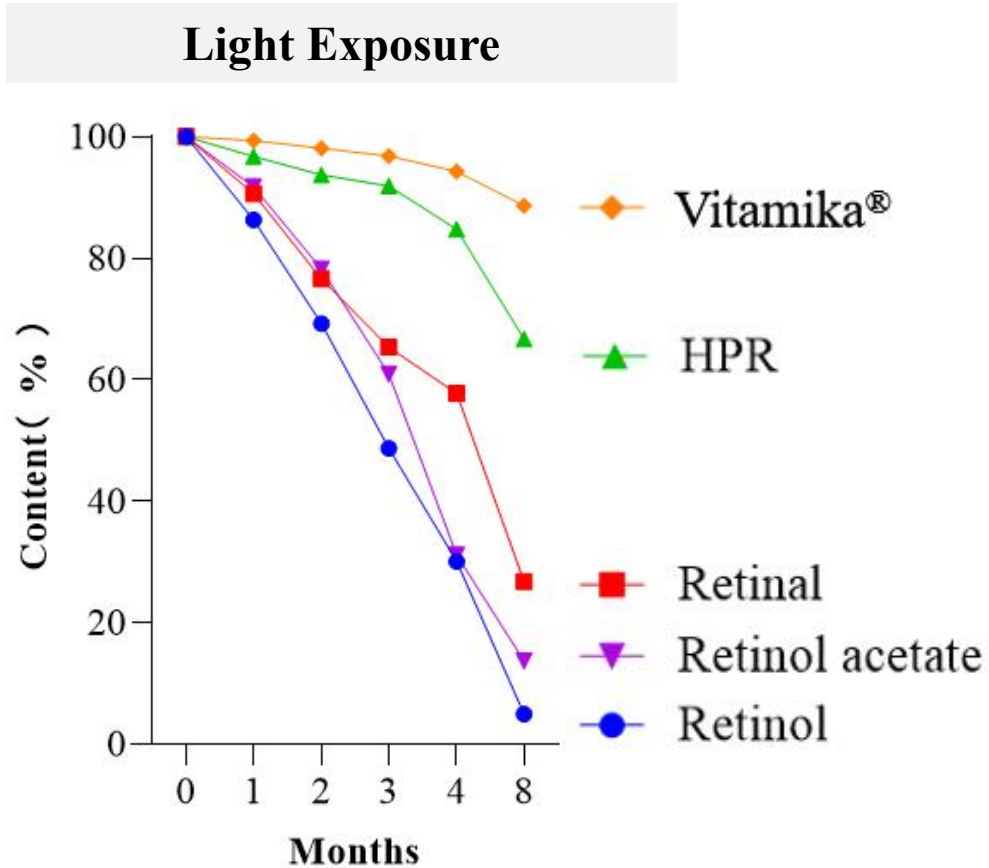


01

Safety

Anallerg[®] -- Vitamika[®]

Safety -- Photostability



◆ **Over 90%** Vitamika[®] maintains after 8 months

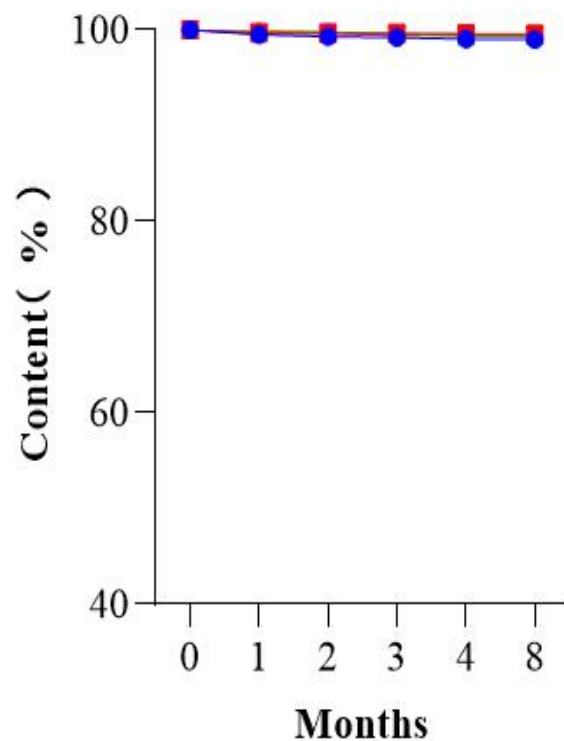
Vitamika[®] has **excellent Photostability**

Anallerg[®] -- Vitamika[®]

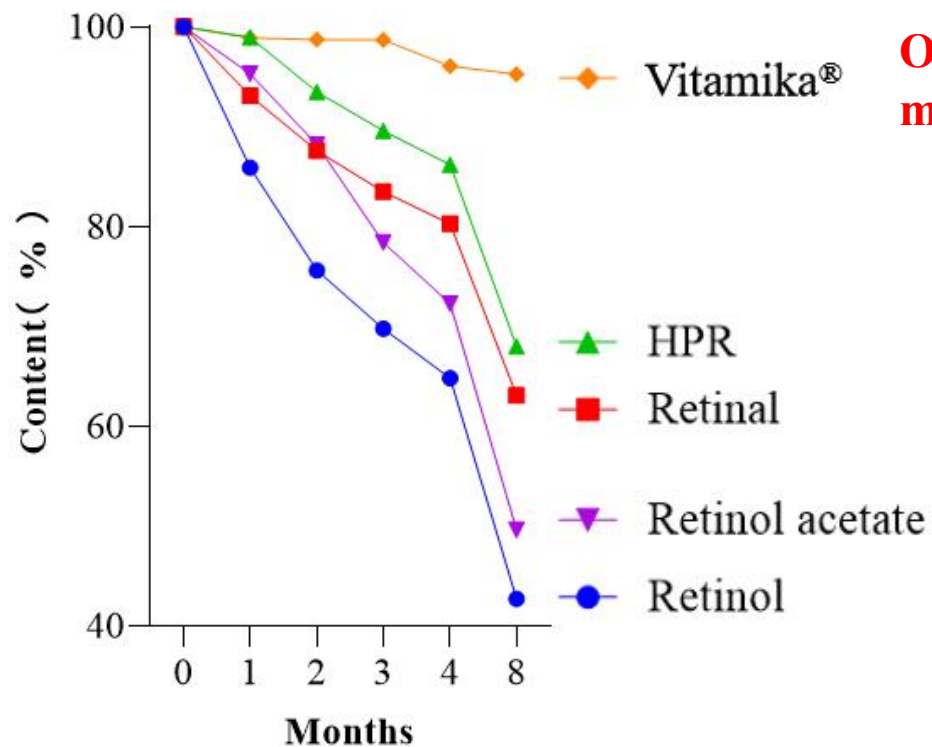
Safety -- Thermal Stability



4°C



Ambient Temperature

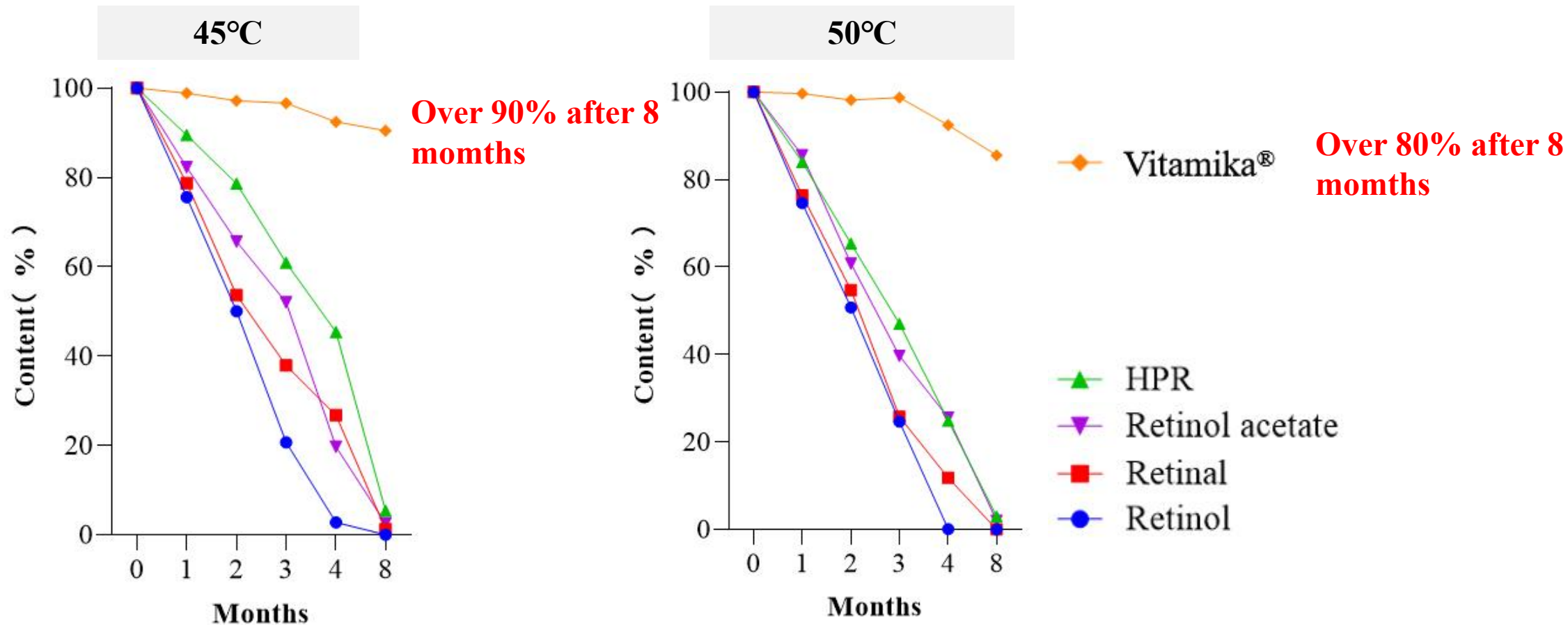


Over 90% after 8 months

Vitamika[®] exhibits excellent **Thermal Stability**

Anallerg[®] -- Vitamika[®]

Safety -- Thermal Stability Extreme Conditions



Vitamika[®] exhibits excellent **Thermal Stability at extreme conditions**

Safety -- Mammalian cell chromosome aberration test

Table 1. Mammalian cell chromosome aberration

Group	Concentration ($\mu\text{g/ml}$)	Number of observed cells		Number of distorted cells		aberration rate (%)			
		+S9	-S9	+S9	-S9	+S9	<i>p</i>	-S9	<i>p</i>
Blank control	/	200	200	0	0	0	-	0	-
Positive control	/	200	200	23	25	23	< 0.05	25	< 0.05
Test substance	1250	200	200	0	0	0	> 0.5	0	> 0.5
	625	200	200	0	0	0	> 0.5	0	> 0.5
	312	200	200	0	0	0	> 0.5	0	> 0.5

Vitamika[®] is a non-mutagenic substance !

Safety -- The bacterial reverse mutation test

Table 2. Ames test (Mean $\pm$ SD)

Group	Concentration (μ g/dish)	Number of colonies									
		TA98a		TA98		IA100		TA1535		WP2uvrApKM101	
		+S ₉	-S ₉	+S ₉	-S ₉	+S ₉	-S ₉	+S ₉	-S ₉	+S ₉	-S ₉
Blank control	/	119 $\pm$ 5	112 $\pm$ 6	23 $\pm$ 3	22 $\pm$ 2	128 $\pm$ 2	120 $\pm$ 3	25 $\pm$ 3	28 $\pm$ 1	138 $\pm$ 4	120 $\pm$ 7
Solvent control	/	115 $\pm$ 8	110 $\pm$ 7	23 $\pm$ 3	26 $\pm$ 5	122 $\pm$ 4	127 $\pm$ 6	26 $\pm$ 2	25 $\pm$ 2	135 $\pm$ 6	121 $\pm$ 5
Positive control	/	2752 $\pm$ 216	3556 $\pm$ 104	4677 $\pm$ 27	1787 $\pm$ 33	1568 $\pm$ 138	2192 $\pm$ 69	464 $\pm$ 26	448 $\pm$ 26	768 $\pm$ 47	1328 $\pm$ 47
Test substance	5000	113 $\pm$ 7	106 $\pm$ 4	22 $\pm$ 2	23 $\pm$ 3	131 $\pm$ 4	119 $\pm$ 7	43 $\pm$ 3	36 $\pm$ 2	130 $\pm$ 6	123 $\pm$ 3
	2500	119 $\pm$ 8	114 $\pm$ 5	26 $\pm$ 2	24 $\pm$ 2	123 $\pm$ 5	119 $\pm$ 4	44 $\pm$ 5	33 $\pm$ 2	129 $\pm$ 3	126 $\pm$ 2
	1250	119 $\pm$ 3	120 $\pm$ 2	24 $\pm$ 2	24 $\pm$ 2	124 $\pm$ 2	121 $\pm$ 4	41 $\pm$ 4	37 $\pm$ 4	136 $\pm$ 12	120 $\pm$ 4
	625	121 $\pm$ 2	110 $\pm$ 4	26 $\pm$ 3	25 $\pm$ 2	129 $\pm$ 3	118 $\pm$ 7	44 $\pm$ 6	35 $\pm$ 4	137 $\pm$ 7	123 $\pm$ 6

Vitamika® is a non-mutagenic substance !

Anallerg® -- Vitamika®

Safety -- The human skin patch test



Table 3. Human skin patch test

Group	Number of subjects	Observation time	Number of subjects with different skin reactions in patch test				
			0	1	2	3	4
0.3%	30	0.5h	30	0	0	0	0
		24h	30	0	0	0	0
		48h	30	0	0	0	0
2%	30	0.5h	30	0	0	0	0
		24h	30	0	0	0	0
		48h	30	0	0	0	0
5%	30	0.5h	30	0	0	0	0
		24h	30	0	0	0	0
		48h	30	0	0	0	0
Negative control	90	0.5h	90	0	0	0	0
		24h	90	0	0	0	0
		48h	90	0	0	0	0

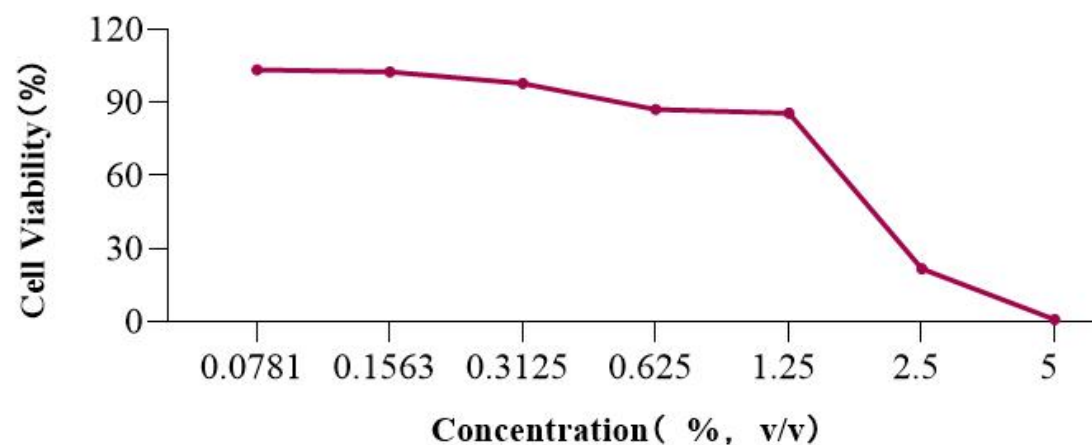
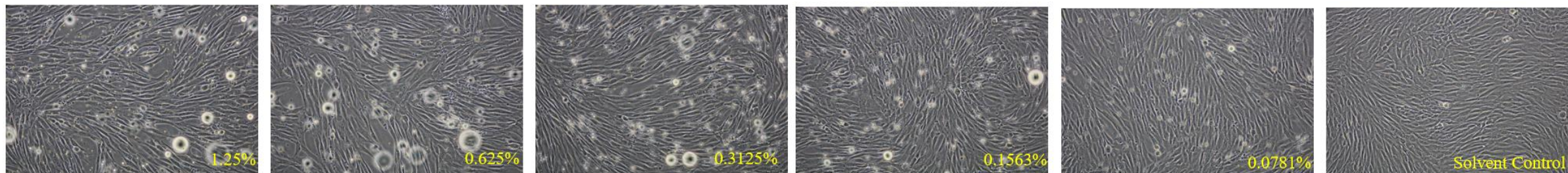
Vitamika® is non-irritating !

Anallerg[®] -- Vitamika[®]

Safety -- Cytotoxicity test based on human dermal fibroblasts



➤ The MTT colorimetric results of Vitamika[®] lotion



The Lotion showed no significant cytotoxicity in the concentration of 0.3125% (Vitamika[®] contents 94ppm)

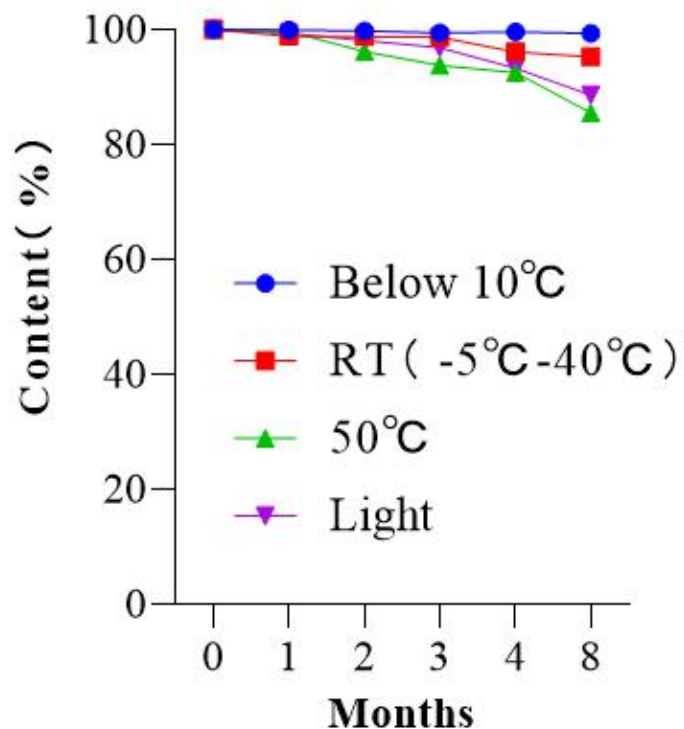
Very low Cytotoxicity

Anallerg[®] -- Vitamika[®]

Safety in Summary



Stability of Vitamika[®]



- ◆ Excellent Stability
- ◆ NO phototoxicity, no risk of photosensitization
- ◆ non-mutagenic substance
- ◆ non-irritating
- ◆ no risk of skin allergies
- ◆ no acute eye irritation
- ◆ no oral toxicity
- ◆ Very low Cytotoxicity

No safety concern at all.



02

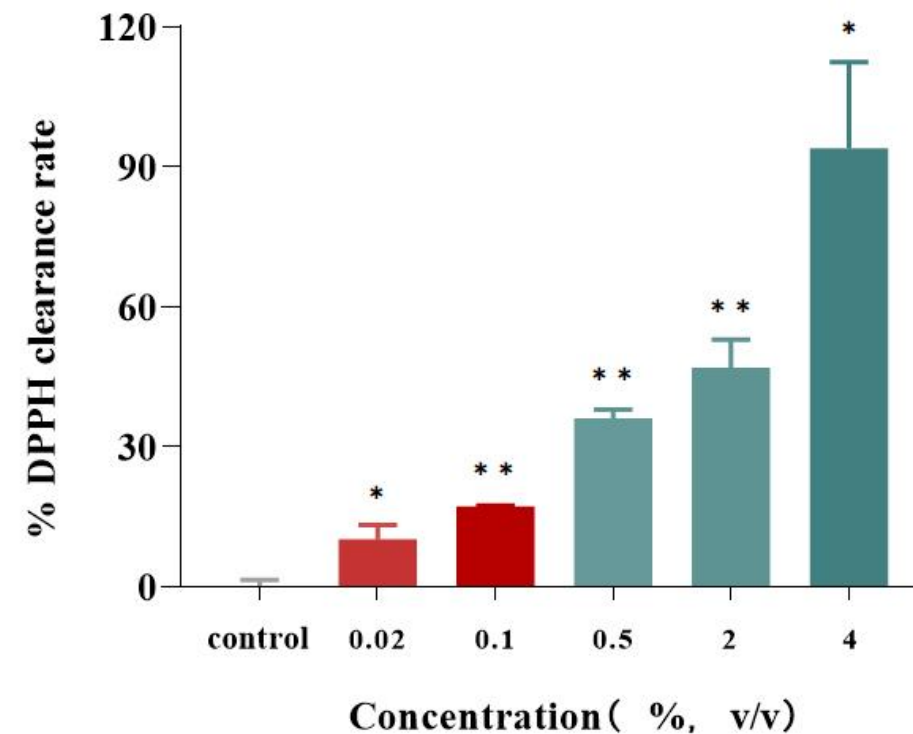
Efficacy

Anallerg[®] -- Vitamika[®]

Efficacy -- Radical Scavenger



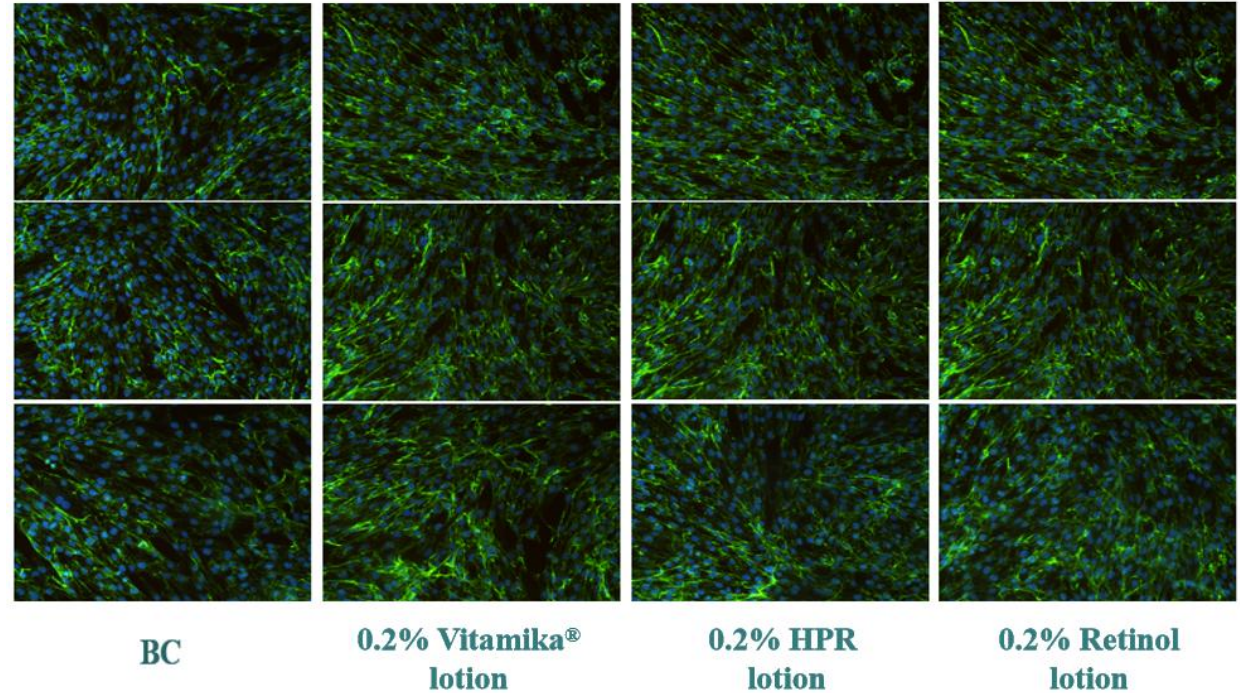
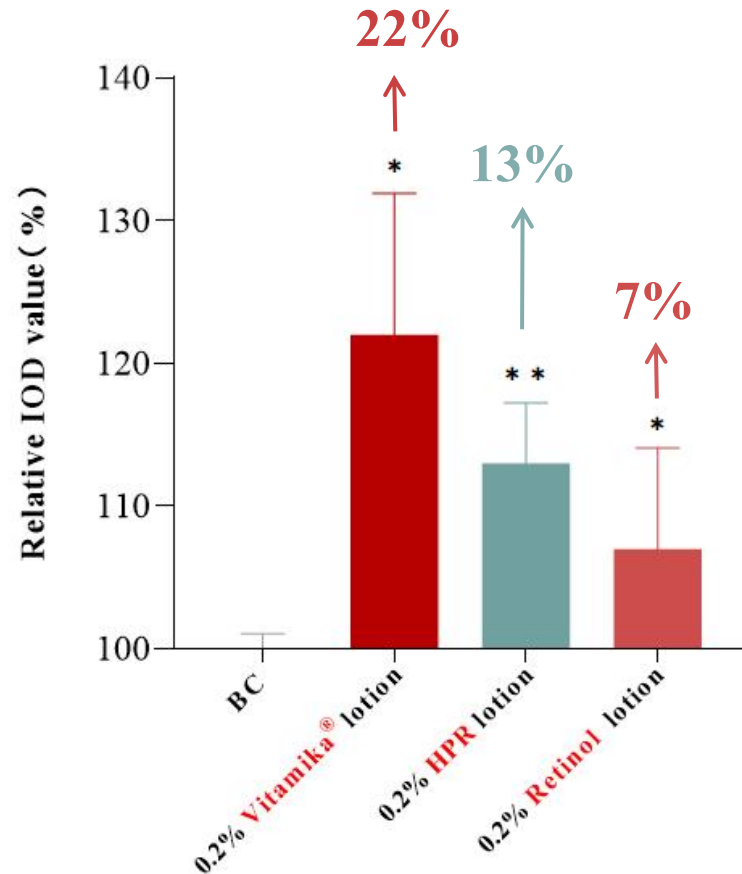
	C (% ,V/V)	DPPH clearance rate (%)
Vitamika [®]	control	~0
	4	94.0
	2	47.0
	0.5	36.6
	0.1	17.3
	0.02	10.2



An effective radical scavenger from VE!

Anallerg® -- Vitamika®

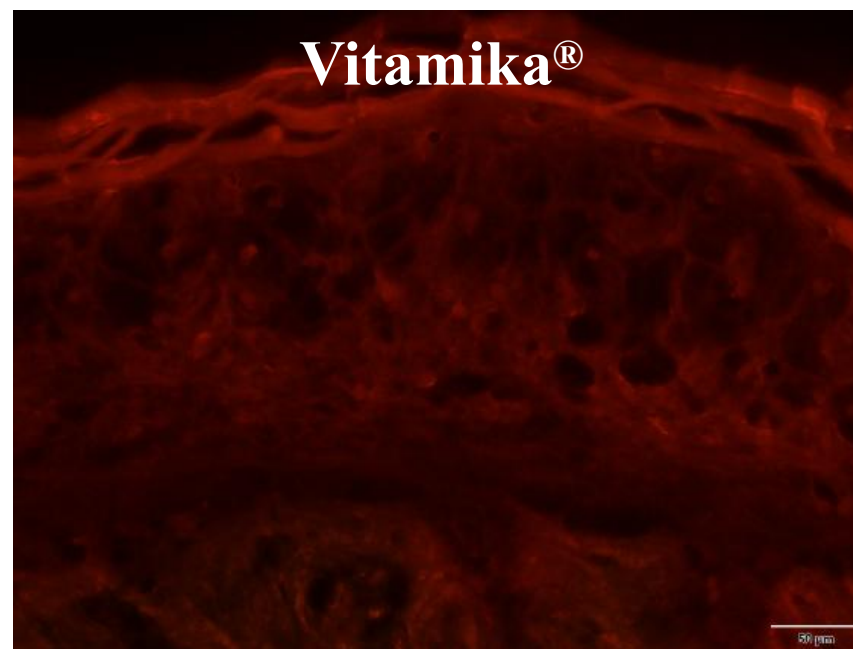
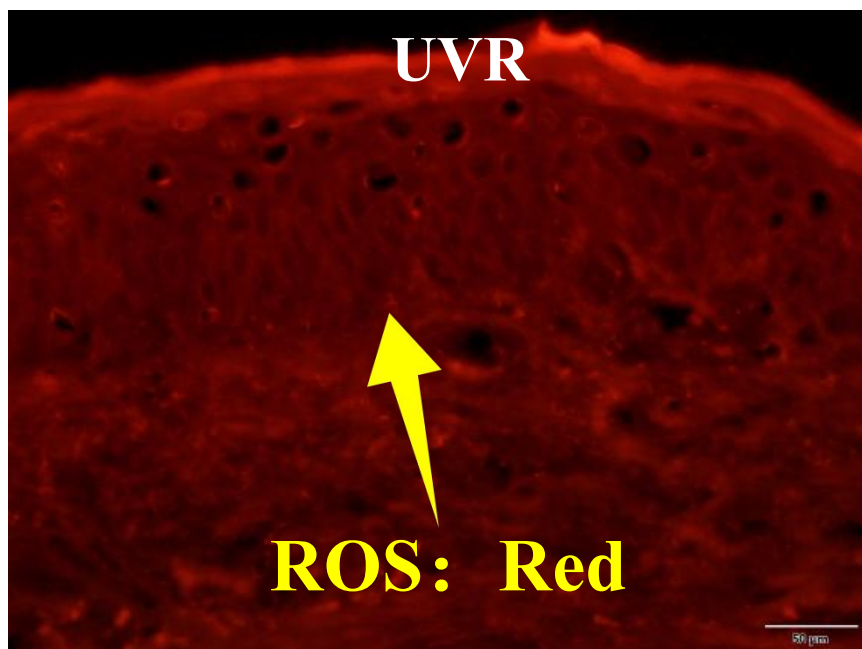
Efficacy -- Type I collagen expression in human fibroblasts



Ability to promote expression of type I collagen: **Vitamika® > Hydroxypinacolone retinoate(HPR) > Retinol**

Anallerg[®] -- Vitamika[®]

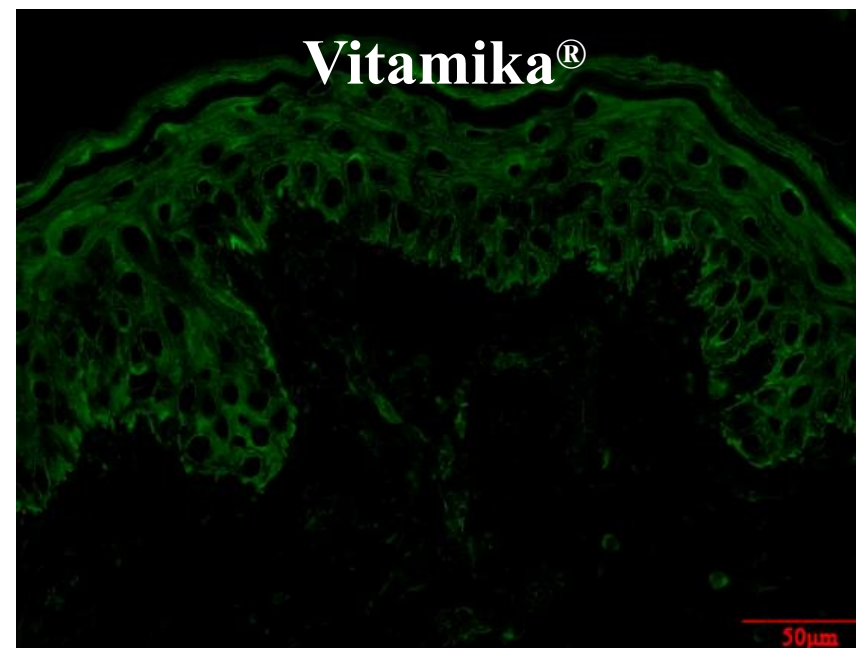
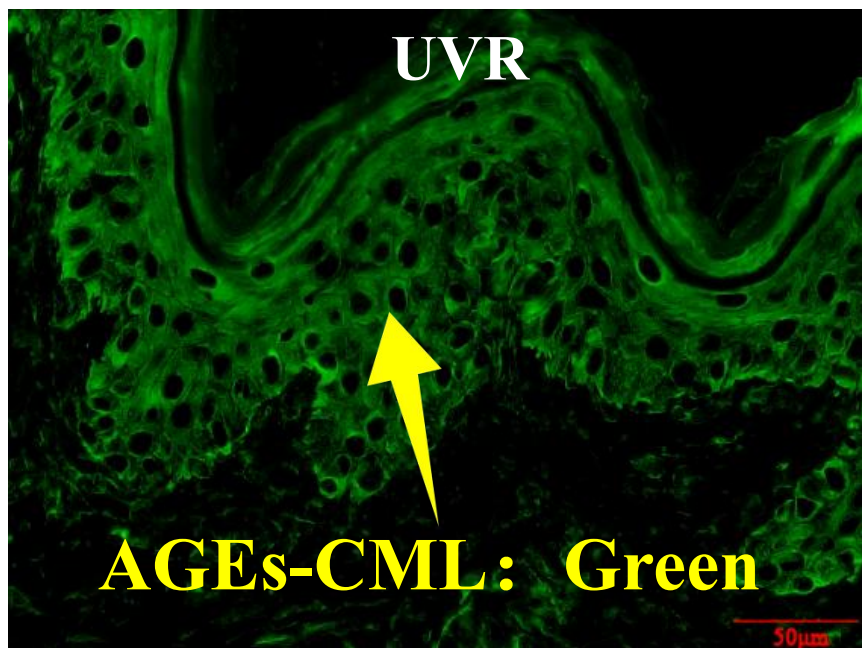
Efficacy -- Eliminate UV-induced ROS generation in **human skin**



0.4% Vitamika[®] inhibits ROS generation by **54.23%**

Anallerg® -- Vitamika®

Efficacy -- Eliminate UV-induced advanced glycation products(AGEs) in **human skin**

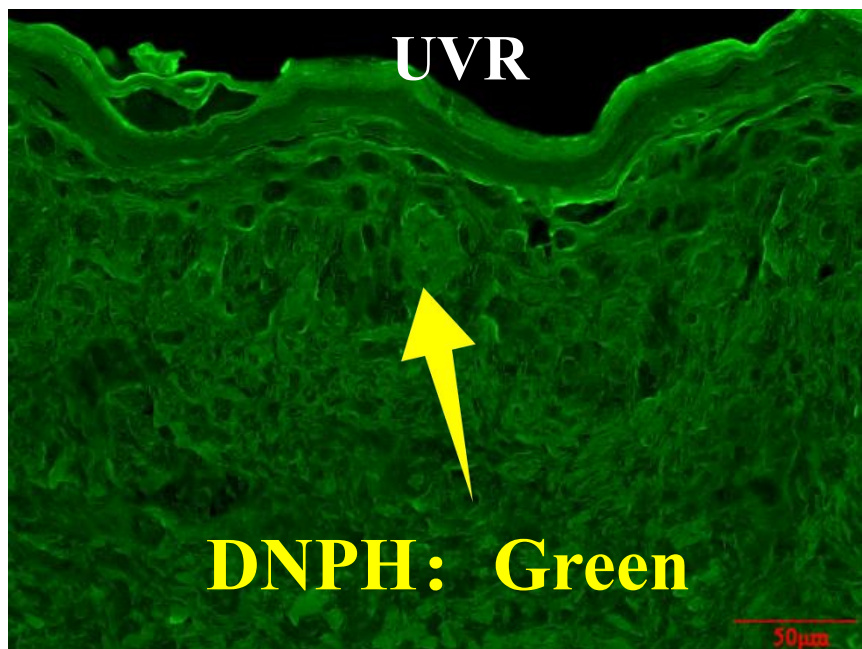


0.4% Vitamika® inhibits AGEs generation by **55.94%**

Anallerg® -- Vitamika®



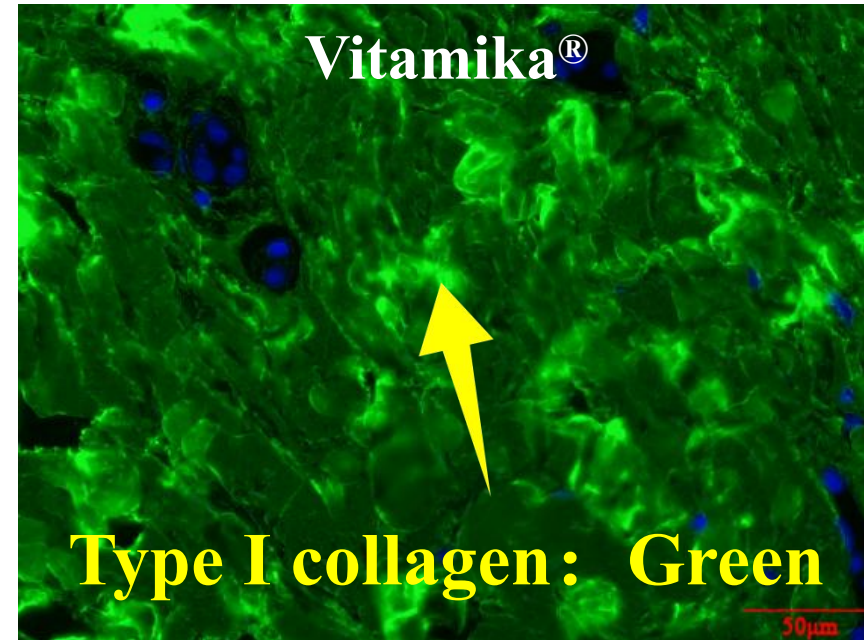
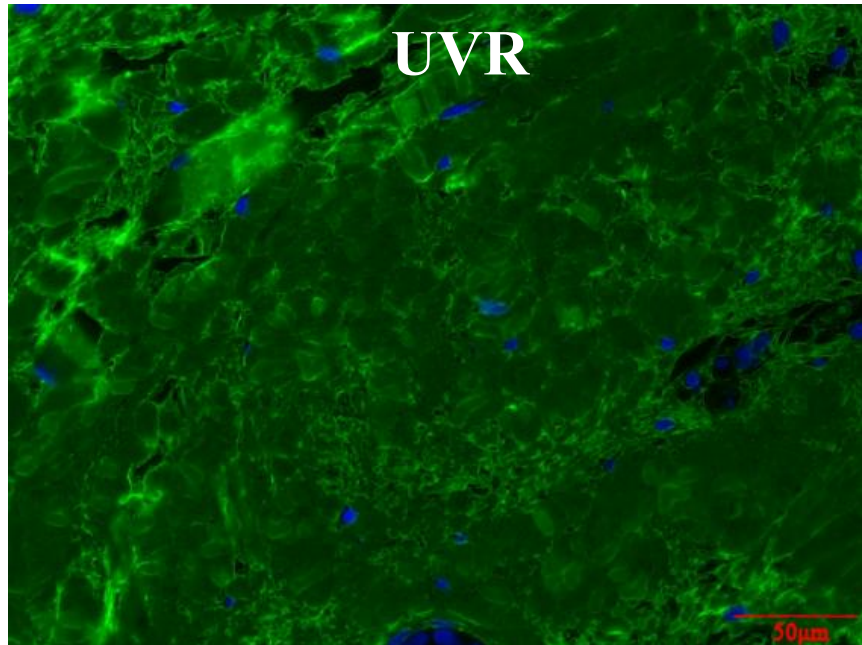
Efficacy -- Eliminate UV-induced carbonylation products (DNPH) in **human skin**



0.4% Vitamika® inhibits the formation of carbonylation products (DNPH) by **60.52%**

Anallerg[®] -- Vitamika[®]

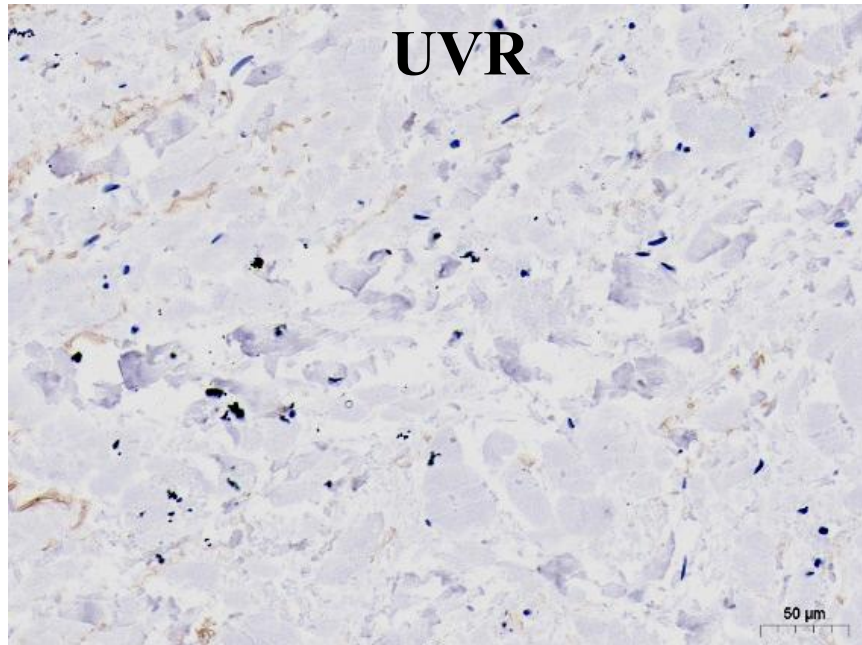
Efficacy -- Promote the production of Type I collagen in **human skin**



0.4% Vitamika[®] significantly promotes the production of Type I collagen by **158.54%**

Anallerg[®] -- Vitamika[®]

Efficacy -- Promote the production of elastin in **human skin**

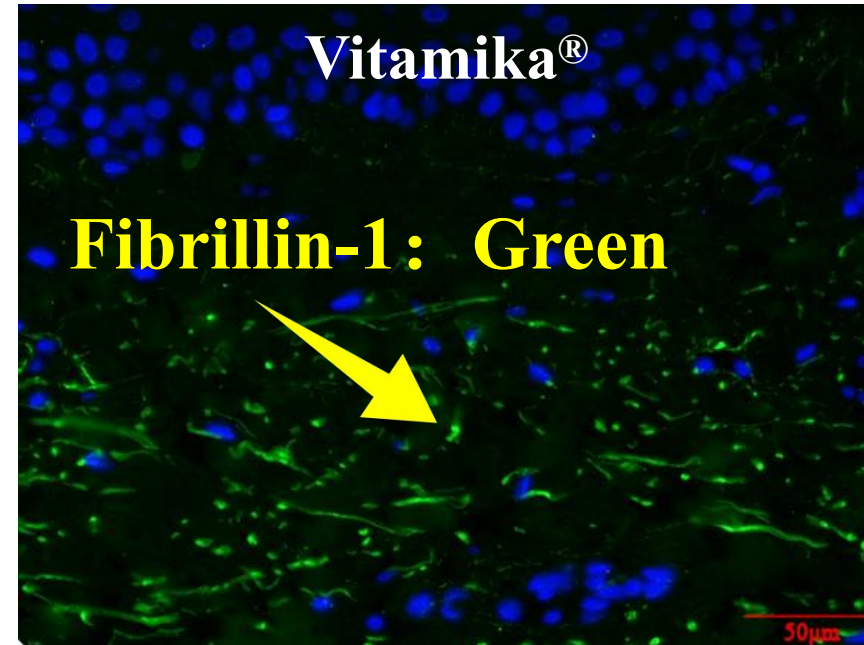
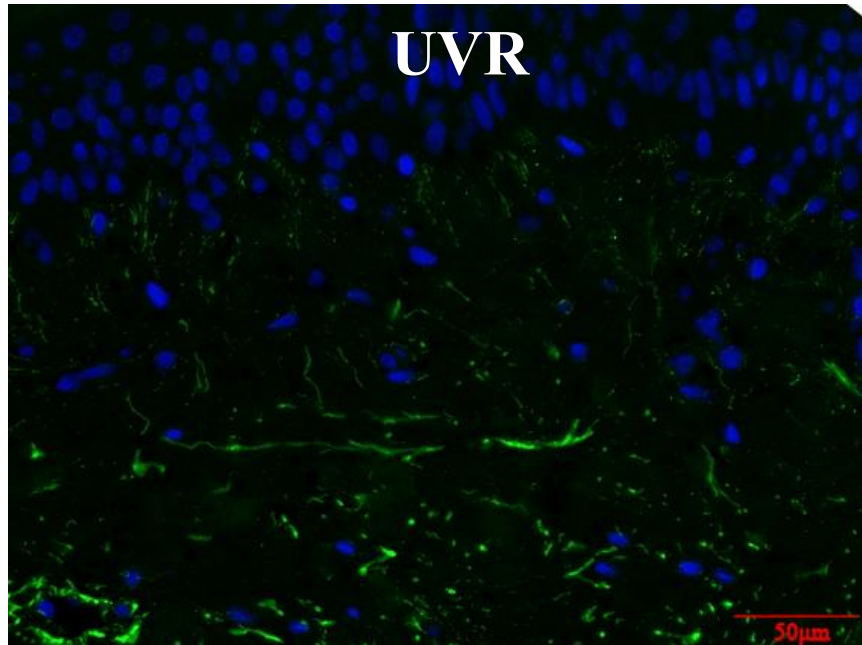


Elastin: Long, bundle-like fibrous structure

0.4% Vitamika[®] significantly promotes elastin production by 143.75%

Anallerg® -- Vitamika®

Efficacy -- Promote the production of fibrillin-1 in **human skin**



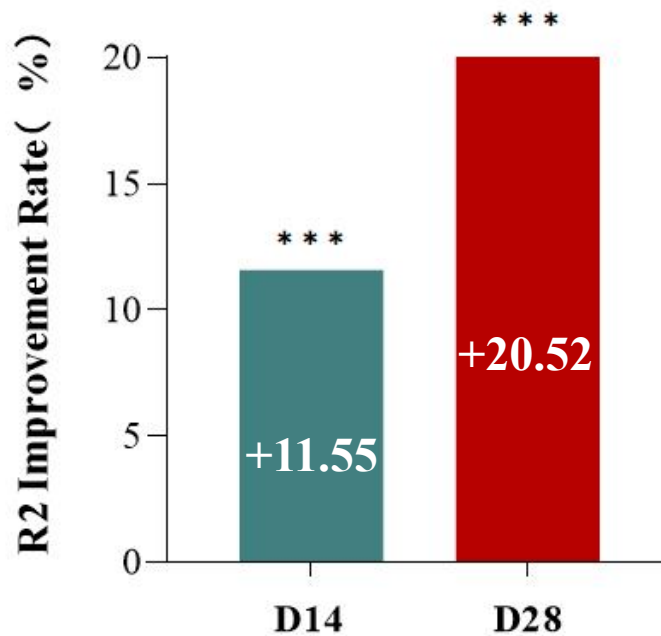
0.4% Vitamika® significantly promotes the production of fibrillin-1 by **158.54%**

Anallerg® -- Vitamika®

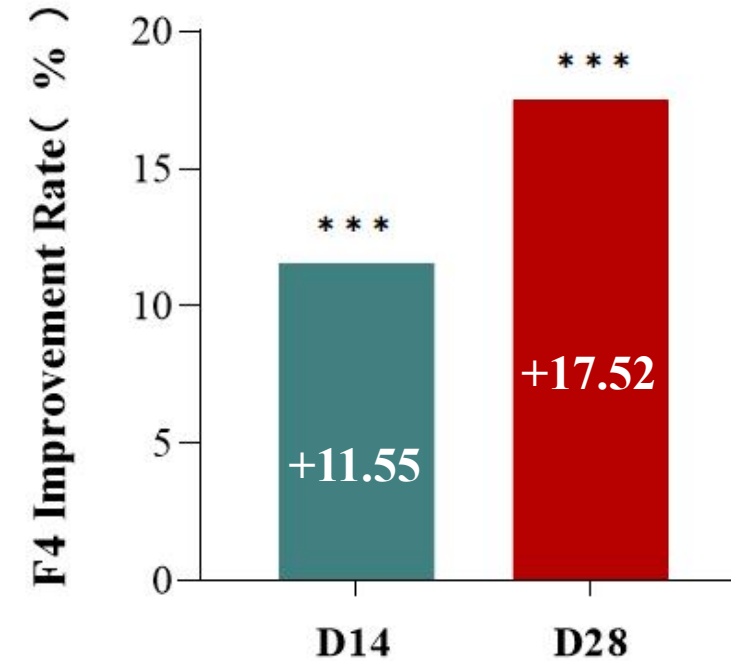
Efficacy -- Improves elasticity and firmness



Skin elasticity



Skin firmness



Note: 32 qualified participants, double-blind test. 0.2% Vitamika® (pale yellow cream) twice a day.

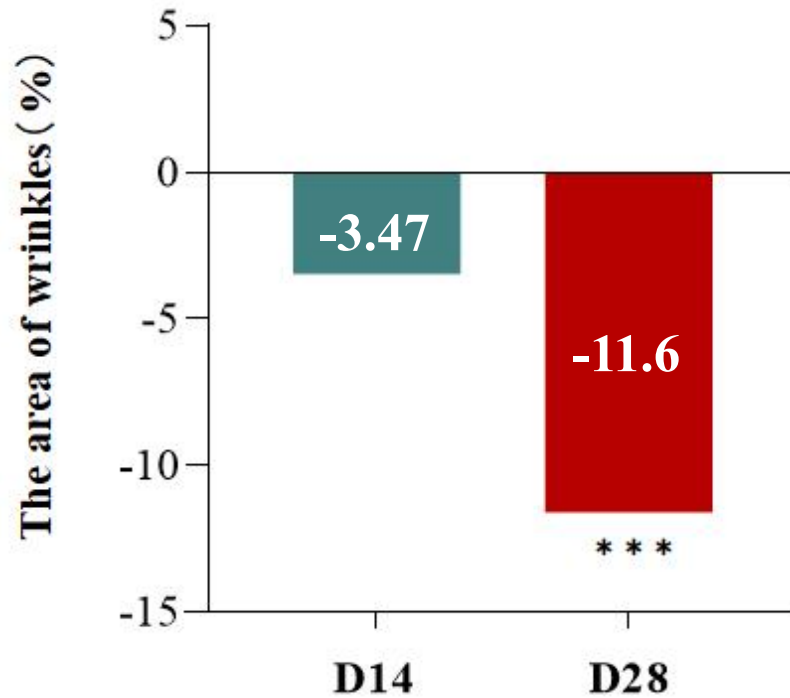
Significant improvement in **skin elasticity** and **firmness** using Vitamika®

Anallerg® -- Vitamika®

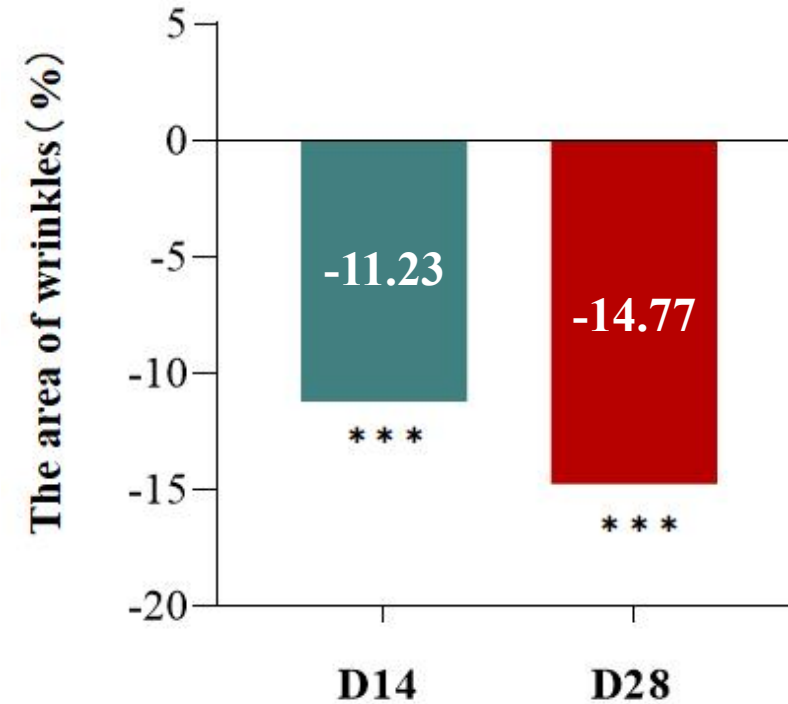
Efficacy -- Reduce wrinkles



The area of wrinkles under the eyes



The area of wrinkles around the eyes



Note: 32 qualified participants, double-blind test. 0.2% Vitamika® (pale yellow cream) twice a day.

The area of **wrinkles under the eyes** was significantly reduced after using Vitamika®

Anallerg® -- Vitamika®

Efficacy -- Reduce wrinkles



Before



Use for 14 days



Use for 28 days



Note: 32 qualified participants, double-blind test. 0.2% Vitamika® (pale yellow cream) twice a day.

The area of **wrinkles under the eyes** was significantly reduced after using Vitamika®

Anallerg® -- Vitamika®

Efficacy -- Reduce wrinkles



Before



Use for 14 days



Use for 28 days



Note: 32 qualified participants, double-blind test. 0.2% Vitamika® (pale yellow cream) twice a day.

The area of **wrinkles under the eyes** was significantly reduced after using Vitamika®

Anallerg® -- Vitamika®

Efficacy -- Reduce wrinkles



Before



Use for 14 days



Use for 28 days



Note: 32 qualified participants, double-blind test. 0.2% Vitamika® (pale yellow cream) twice a day.

The area of **wrinkles around the eyes** was significantly reduced after using Vitamika®

Anallerg® -- Vitamika®

Efficacy -- Reduce wrinkles



Before



Use for 14 days



Use for 28 days



Note: 32 qualified participants, double-blind test. 0.2% Vitamika® (pale yellow cream) twice a day.

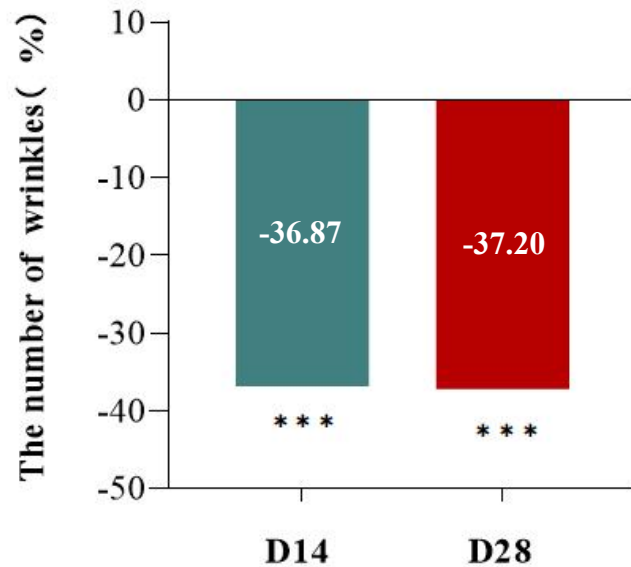
The area of **wrinkles around the eyes** was significantly reduced after using Vitamika®

Anallerg® -- Vitamika®

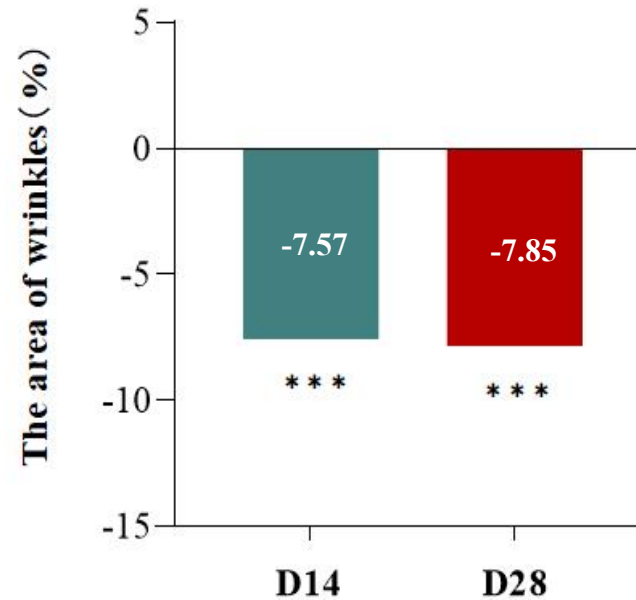
Efficacy -- Reduce forehead and nasolabial wrinkles



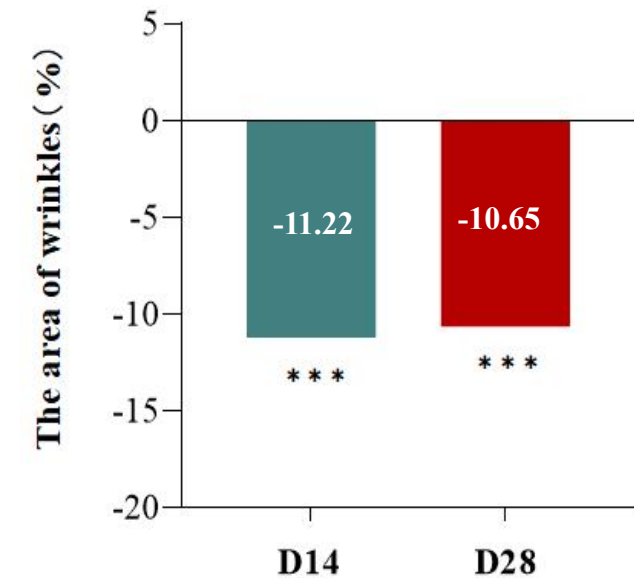
Number of forehead wrinkles



Areas of forehead wrinkle



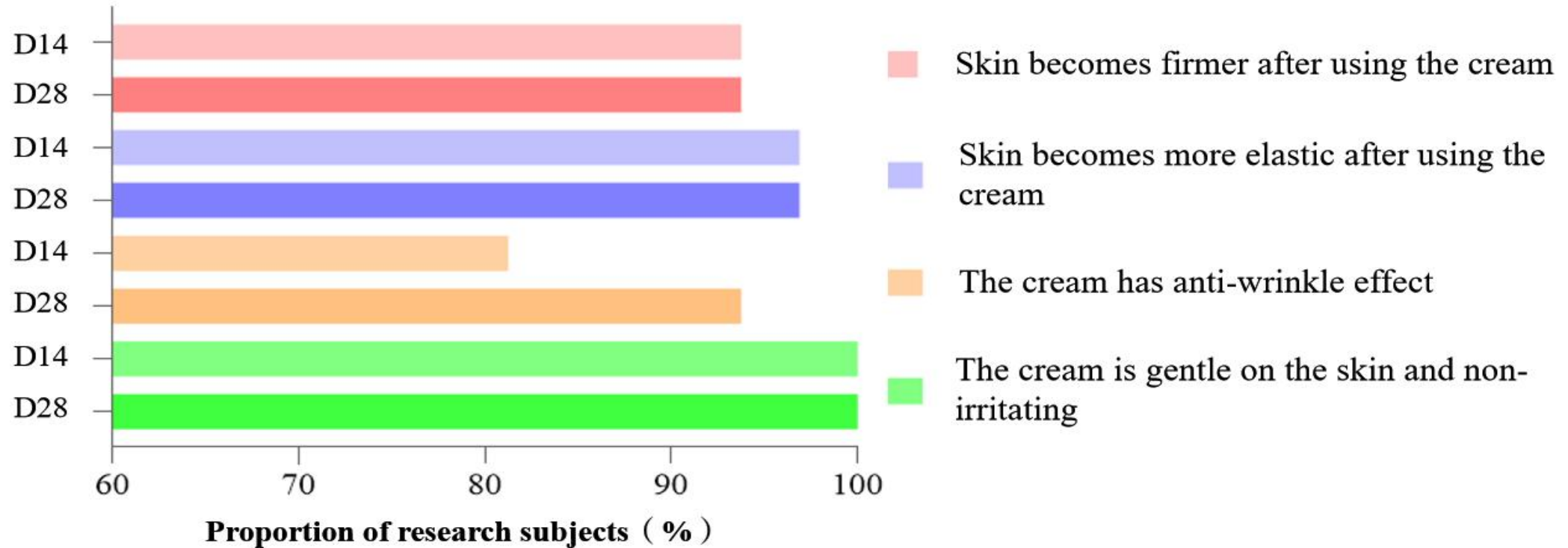
Area of nasolabial wrinkles



Significant improvement for **forehead and nasolabial wrinkles** After using Vitamika®

Anallerg[®] -- Vitamika[®]

Efficacy -- Self-evaluation



People highly appreciate these efficacies.

Market Insight

“VC in the morning, VA at night” is about to become history.

➤ **Anallerg[®] -- Vitamika[®]**

With 1. No safety concern especially no phototoxicity.

2. Comparable efficacy.

3. Easy for formulating due to excellent stability.

New era for VA product.



03

Application

10% Vitamika[®] in different solvents

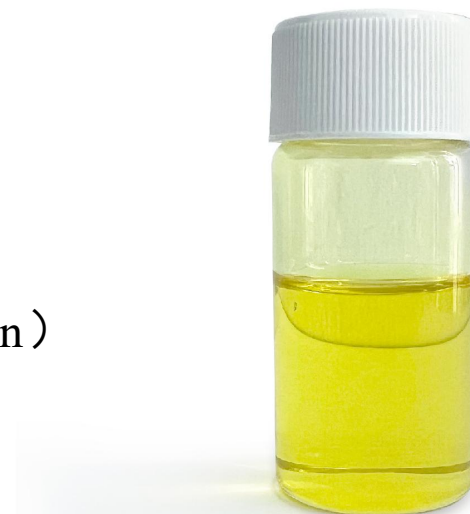
Solubility	RT	-18°C for 24h
	Dissolve uniformly	
Oils	squalane、heterogeneous cetane、white oil (26#、15#)、caprylic/capric triglyceride、tocopheryl acetate、isopropyl palmitate (IPP)、isopropyl myristate (IPM)、isooctyl palmitate (2EHP)、diethylhexyl carbonate、dicaprylyl carbonate、caprylyl methicone、isooctadecyl isooctadecanoate、octyldodecanol、diisooctyl adipate、triethylcitrate	
Solubility	RT	-18°C for 24h
	Dissolve uniformly	Precipitate out
Oils	cyclopentasiloxane (CM5)、diethoxyethyl Succinate	

Anallerg[®] -- Vitamika[®]

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- **Specification:** 10% (**Oil-soluble/Water-soluble**)
- **Recommended dosage:** Recommended 1.0-5.0% (10% version)
- **Formula suggestions:** Suitable for essences, lotions, creams and oil-based products
- **Application:** Anti-aging, anti-wrinkle, thicken epidermis, improve skin texture, antioxidant, and reduce pigmentation





Anallerg[®]
克琴分子活性物

EffeMIX[™]
克琴分子配伍



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