

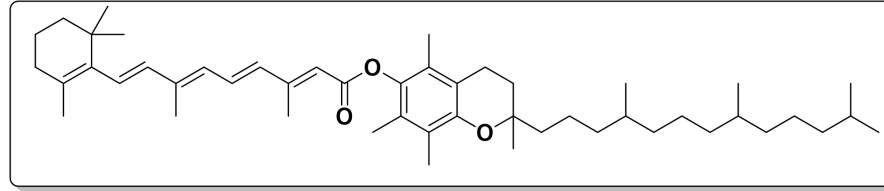


**Anallerg® -- Vitamika® — A Novel  
Anti-aging Vitamin A Derivative**

INCI: Tocopheryl Retinoate

# Anallerg<sup>®</sup> -- Vitamika<sup>®</sup>

## Technical Information



- **Product name:** **Anallerg<sup>®</sup> -- Vitamika<sup>®</sup>**
- **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

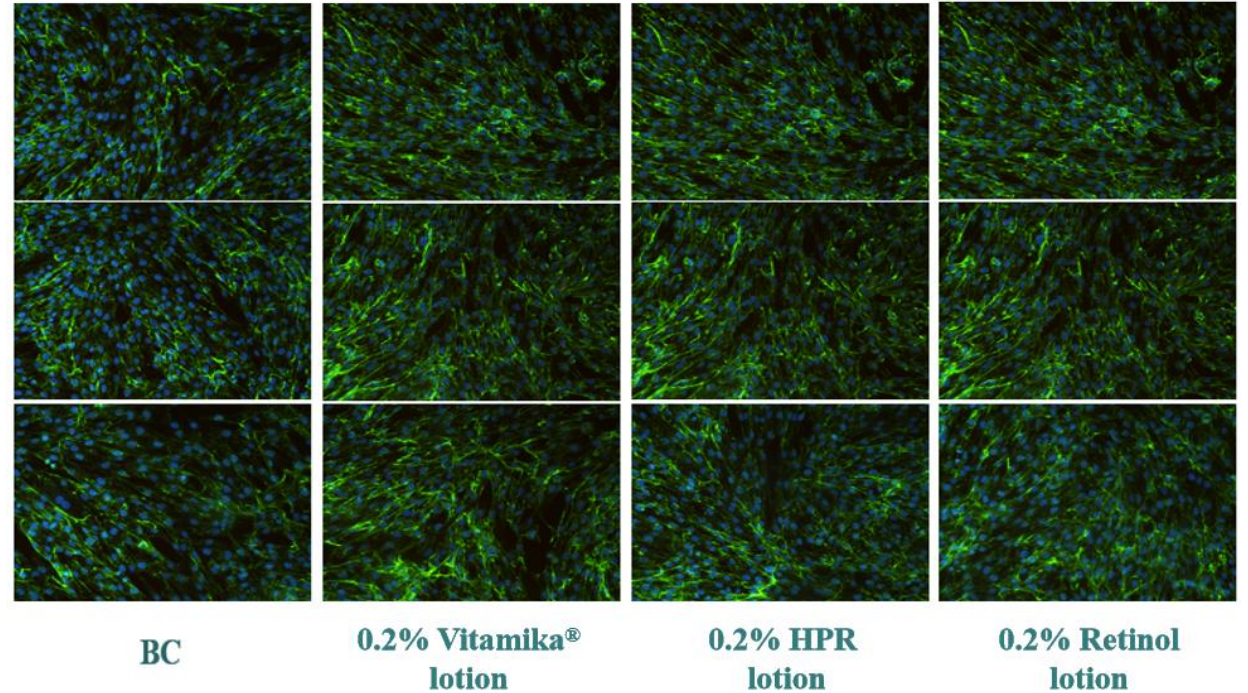
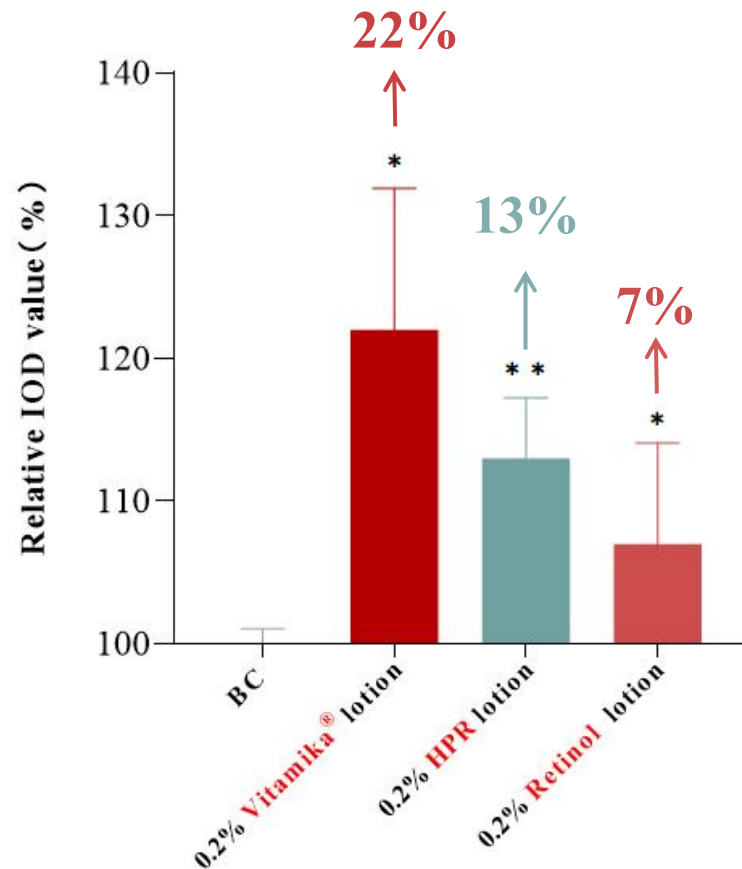


01

# Efficacies

# Anallerg<sup>®</sup> -- Vitamika<sup>®</sup>

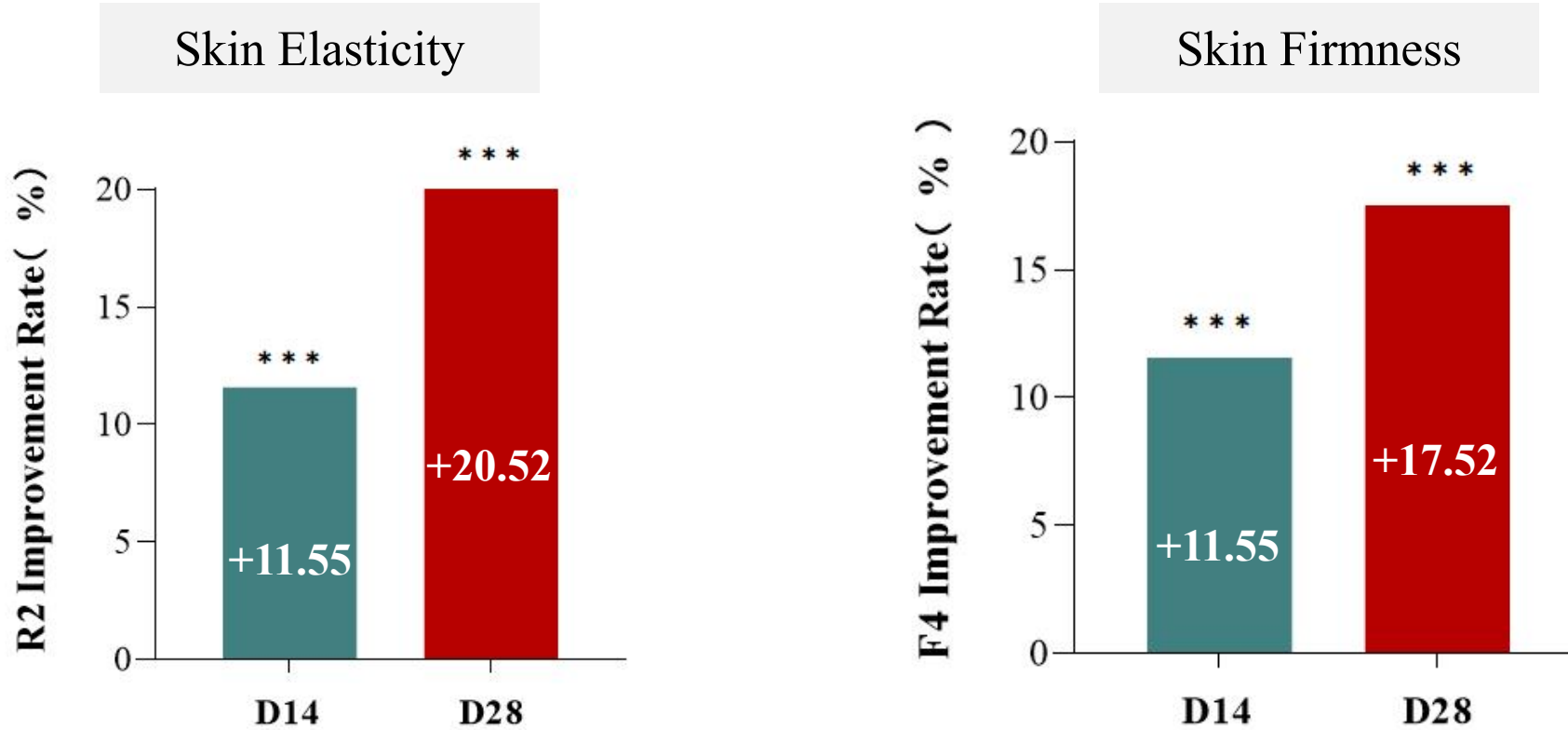
Efficacy -- Type I Collagen Expression in Human Fibroblasts



Ability to promote expression of type I collagen: **Vitamika<sup>®</sup> > HPR > Retinol**

# Anallerg<sup>®</sup> -- Vitamika<sup>®</sup>

Efficacies -- Improves Elasticity and Firmness

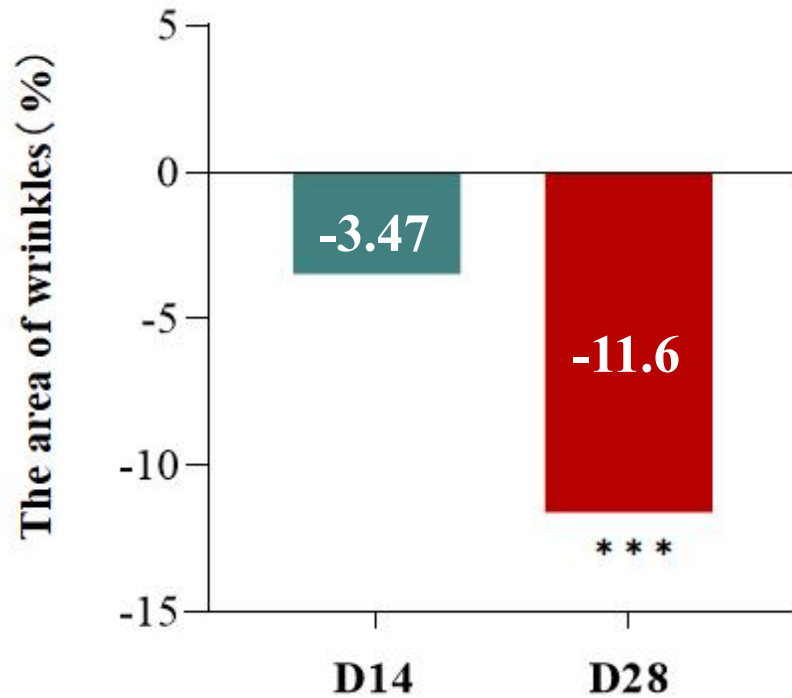


Note: 32 qualified participants, double-blind test. 0.2% Vitamika<sup>®</sup> (pale yellow cream) twice a day.

Significant improvement in **skin elasticity and firmness** using Vitamika<sup>®</sup>

# Anallerg<sup>®</sup> -- Vitamika<sup>®</sup>

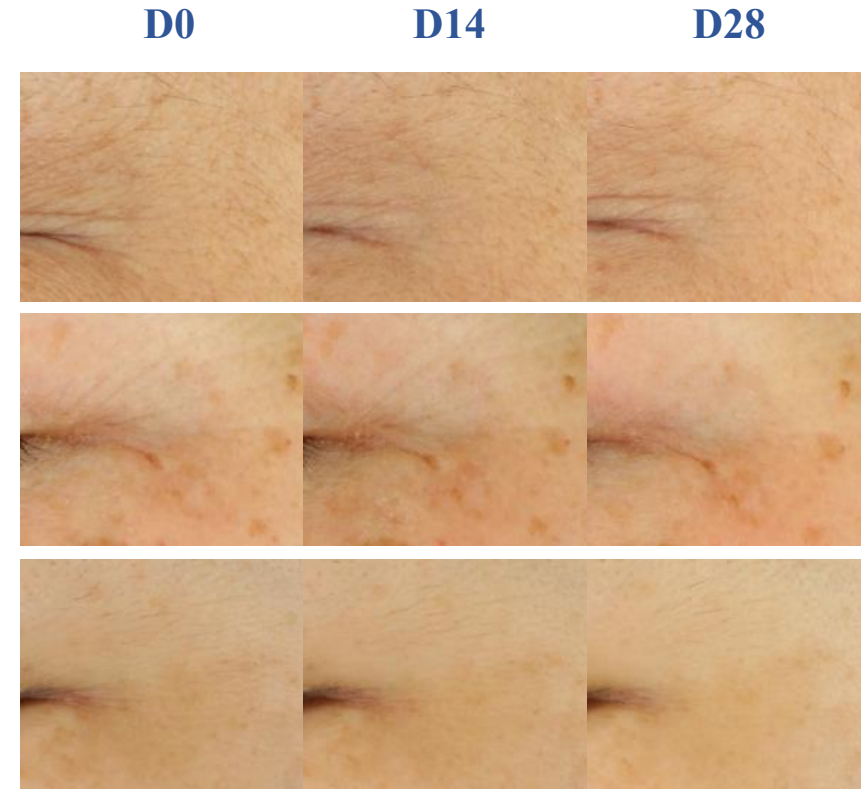
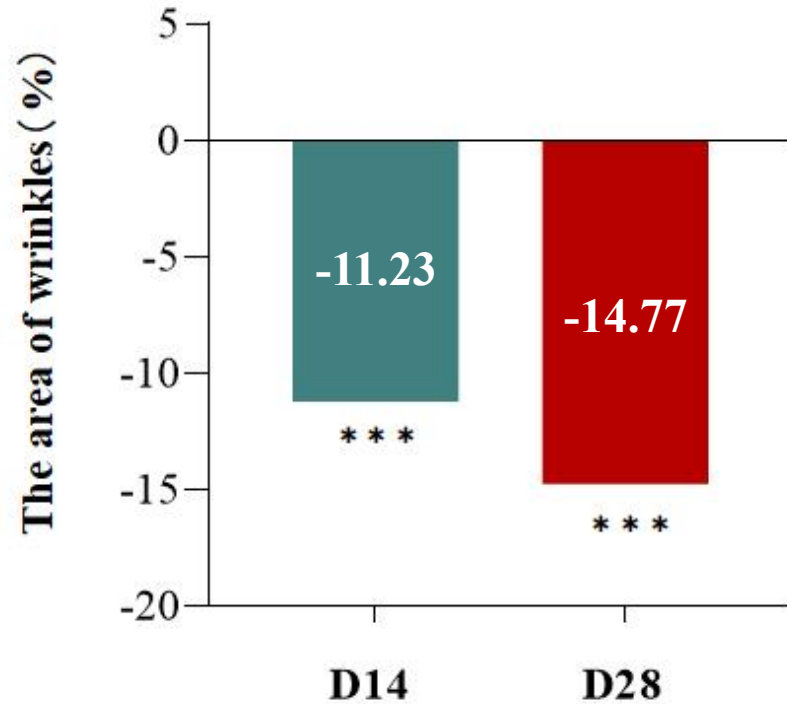
Efficacy -- Reduce Wrinkles Under Eyes



The area of **wrinkles under the eyes** was significantly reduced after using Vitamika<sup>®</sup>

# Anallerg<sup>®</sup> -- Vitamika<sup>®</sup>

Efficacy -- Reduce Wrinkles Around Eyes



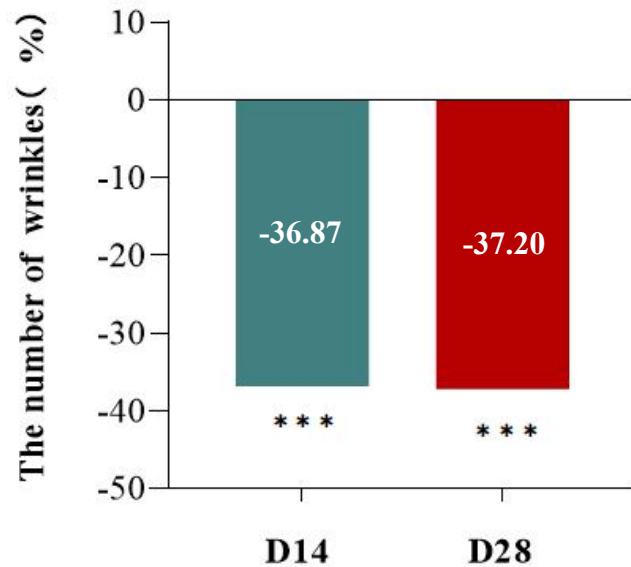
The area of **wrinkles around the eyes** was significantly reduced after using Vitamika<sup>®</sup>

# Anallerg<sup>®</sup> -- Vitamika<sup>®</sup>

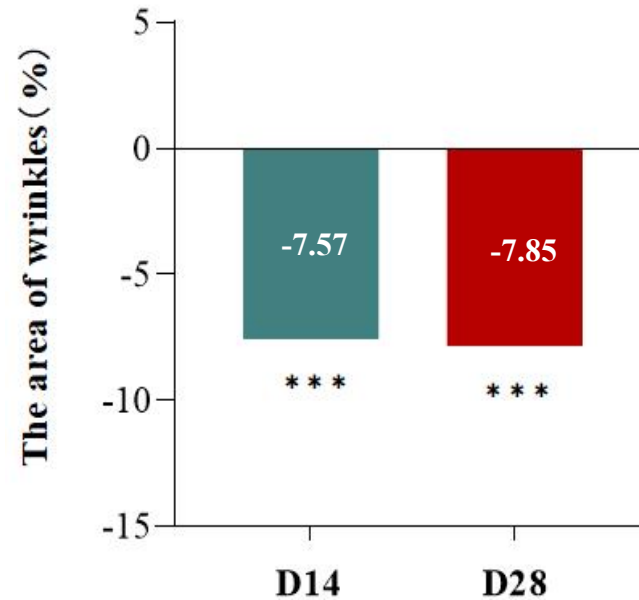
Efficacies -- Reduce Forehead and Nasolabial Wrinkles



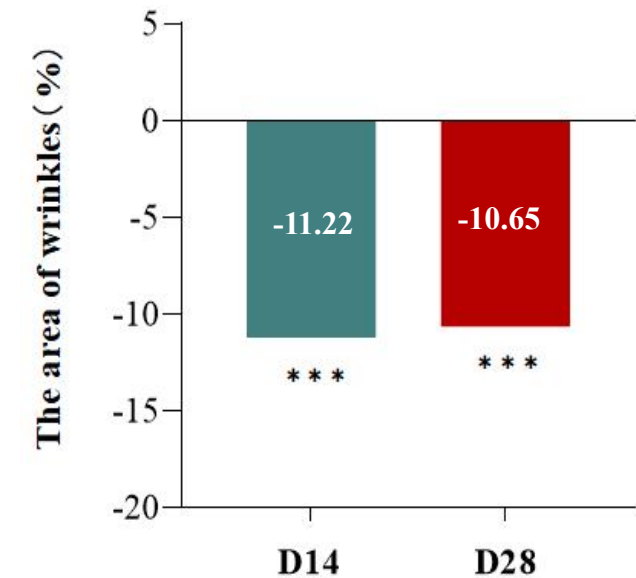
Number of Forehead Wrinkles



Areas of Forehead Wrinkle



Area of Nasolabial Wrinkles



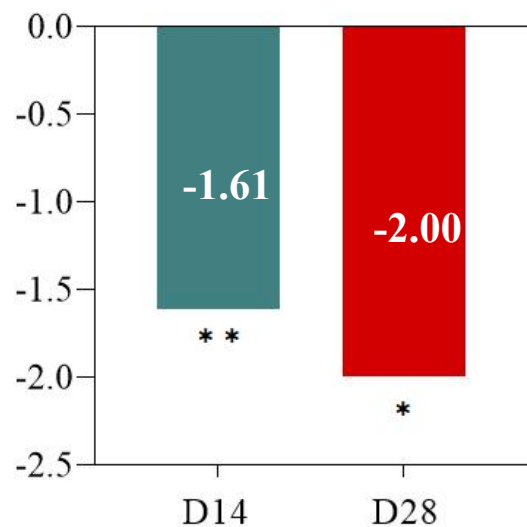
Significant improvement for **forehead and nasolabial wrinkles** After using Vitamika<sup>®</sup>

# Anallerg<sup>®</sup> -- Vitamika<sup>®</sup>

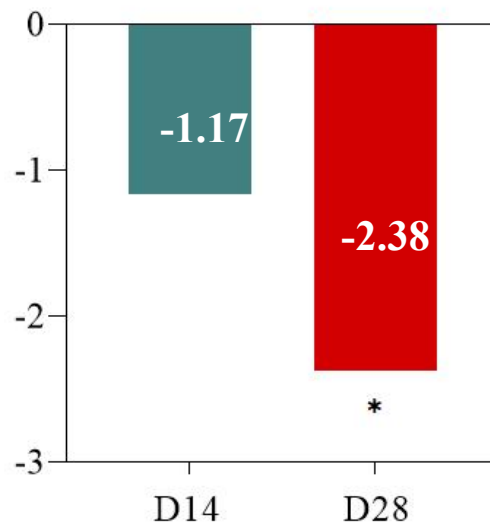
Efficacies — Shrink pores



number



area



D0

D14

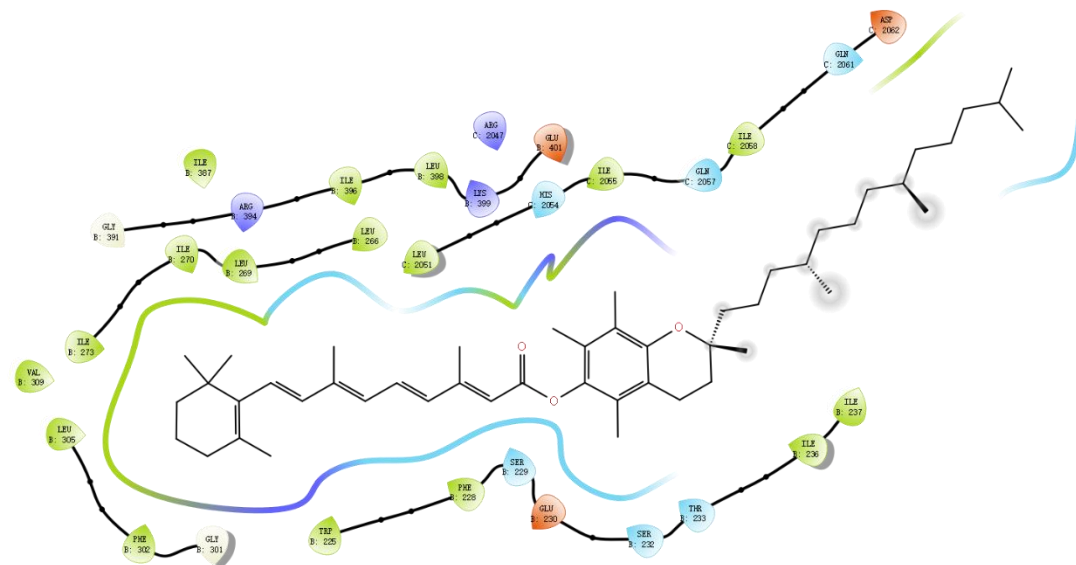
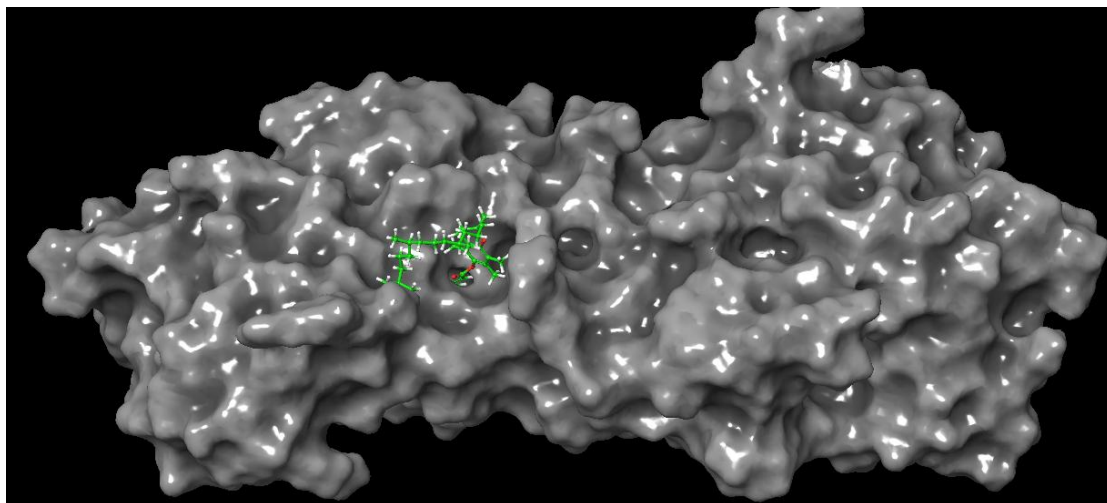
D28



Significant improvement for pores after using Vitamika<sup>®</sup>

# Anallerg<sup>®</sup> -- Vitamika<sup>®</sup>

Target—docking

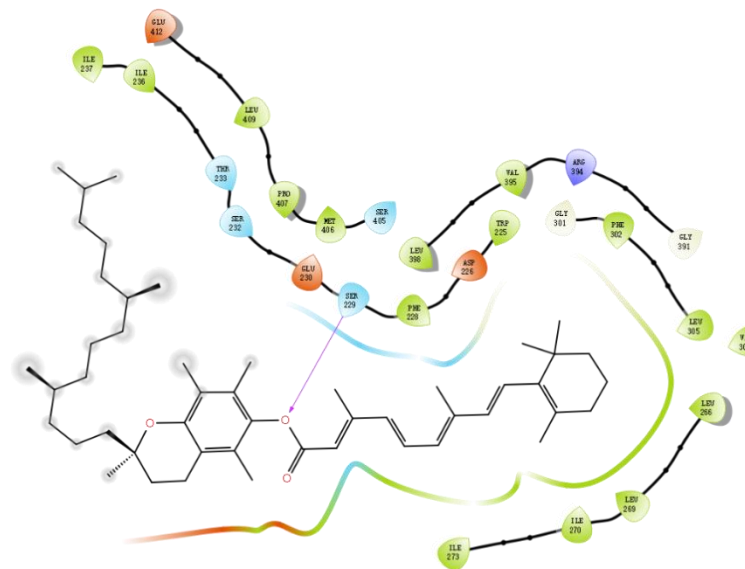
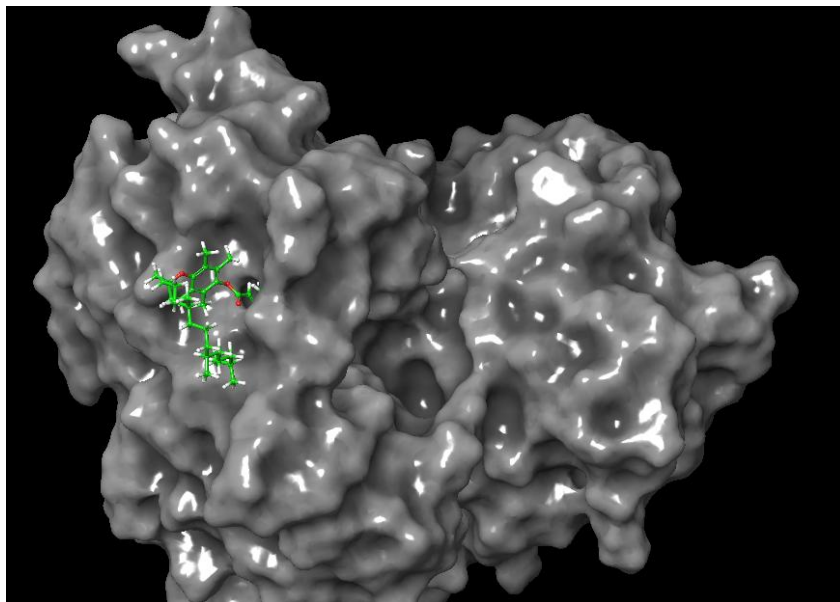


PDB ID	Pose	Prime Energy	Potential Energy -OPLS3	Docking Score
3KMZ	1	-17065.60	-2405.51	-7.81

Vitamika<sup>®</sup> target: RAR $\alpha$

# Anallerg<sup>®</sup> -- Vitamika<sup>®</sup>

Target—docking



PDB ID	Pose	Prime Energy	Potential Energy -OPLS3	Docking Score
1DKF	1	-12184.20	-1843.83	-7.40

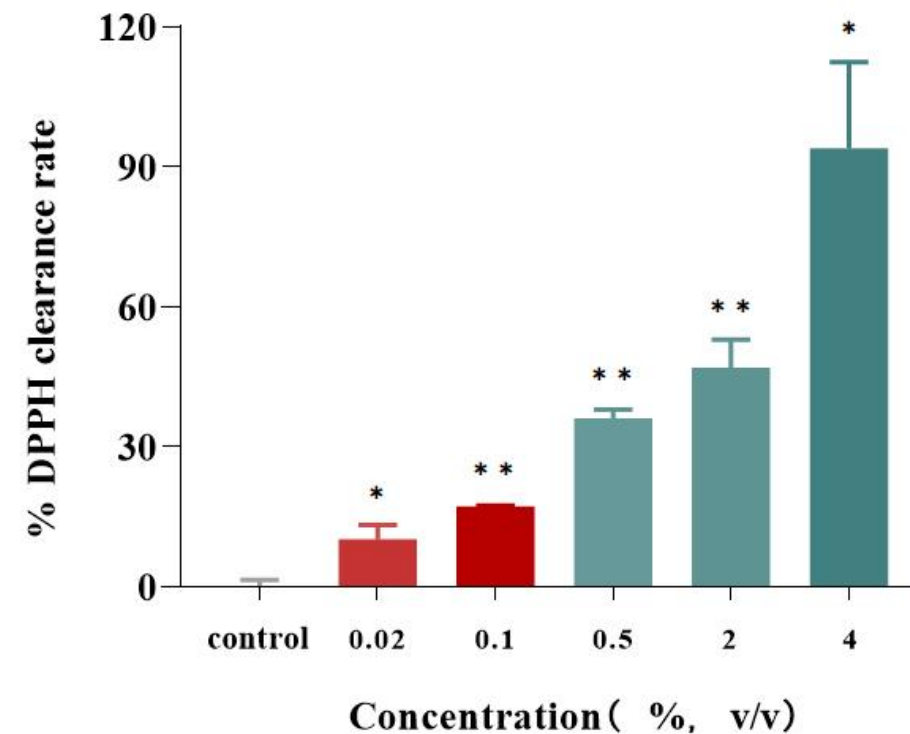
Vitamika<sup>®</sup> target: RAR $\alpha$

# Anallerg<sup>®</sup> -- Vitamika<sup>®</sup>

Efficacy -- Radical Scavenger



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



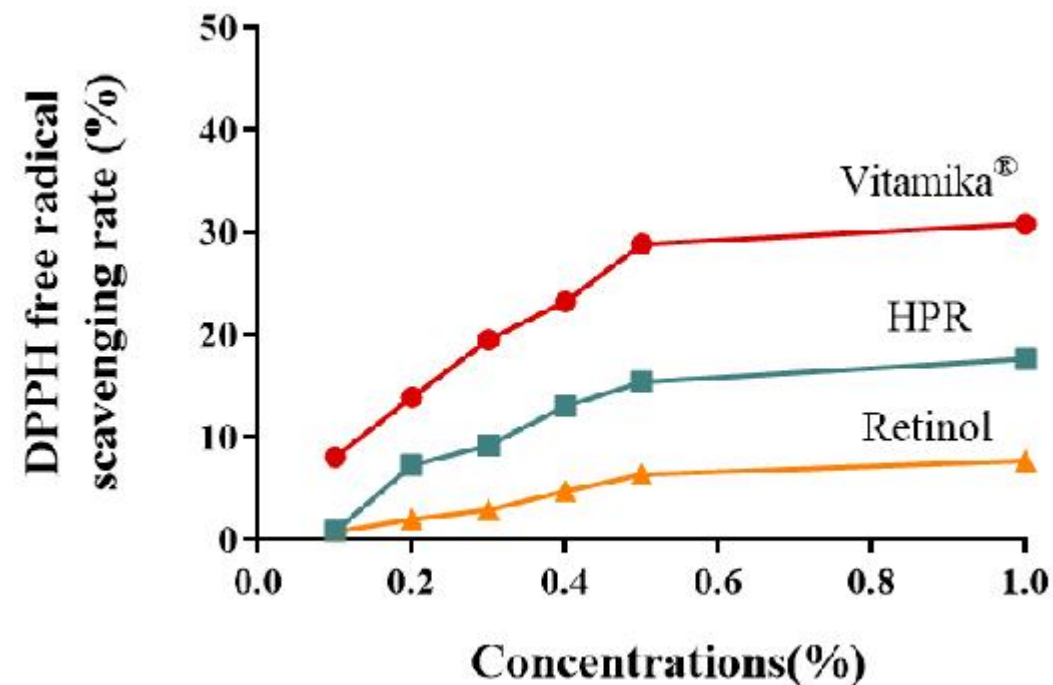
**An effective radical scavenger from VE!**

# Anallerg<sup>®</sup> -- Vitamika<sup>®</sup>

Efficacy -- Radical Scavenger



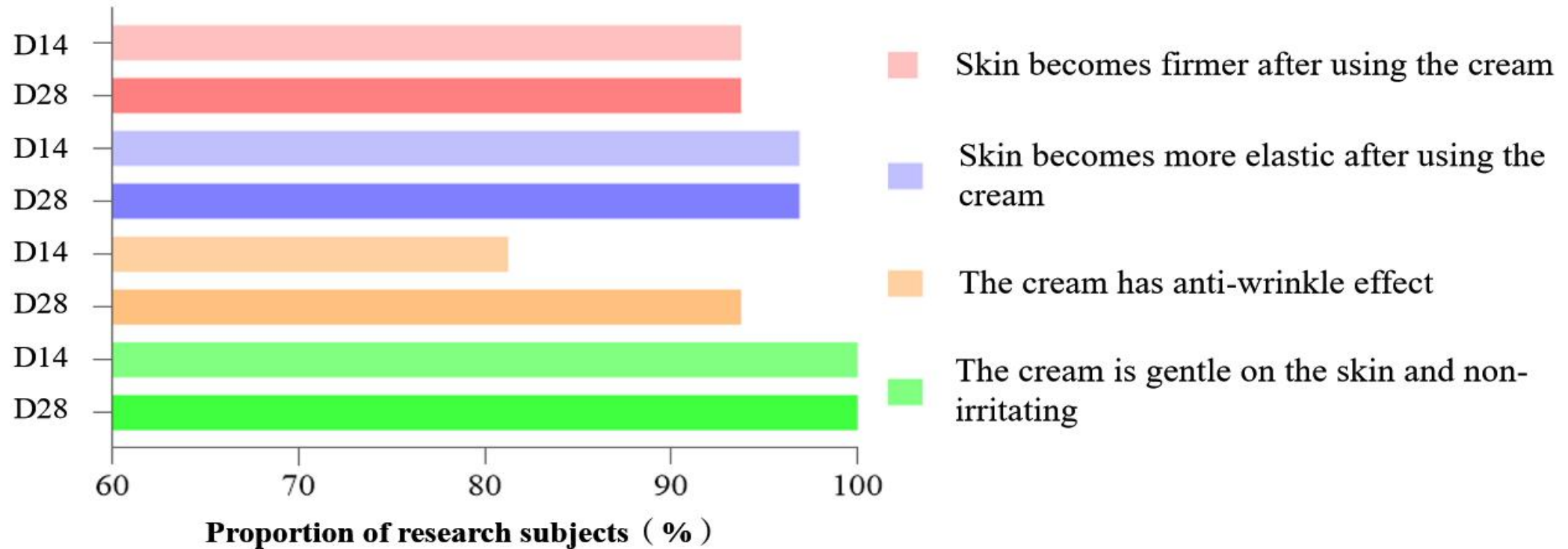
substrates	DPPH clearance rate (%)					
	0.1	0.2	0.3	0.4	0.5	1.0
Vitamika <sup>®</sup>	8.08	13.90	19.52	23.22	28.84	30.82
HPR	0.82	7.26	9.18	13.01	15.41	17.60
Retinol	0.75	1.99	2.88	4.73	6.37	7.67



**An effective radical scavenger from VE!**

# Anallerg<sup>®</sup> -- Vitamika<sup>®</sup>

## Efficacies – Self Evaluation



People highly appreciate these efficacies

# Market Insight



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

## ➤ **Anallerg<sup>®</sup> -- Vitamika<sup>®</sup>**

1. No safety concern especially no phototoxicity.
2. Comparable efficacies.
3. Easy for formulating due to excellent stability.

**New era for VA product.**



02

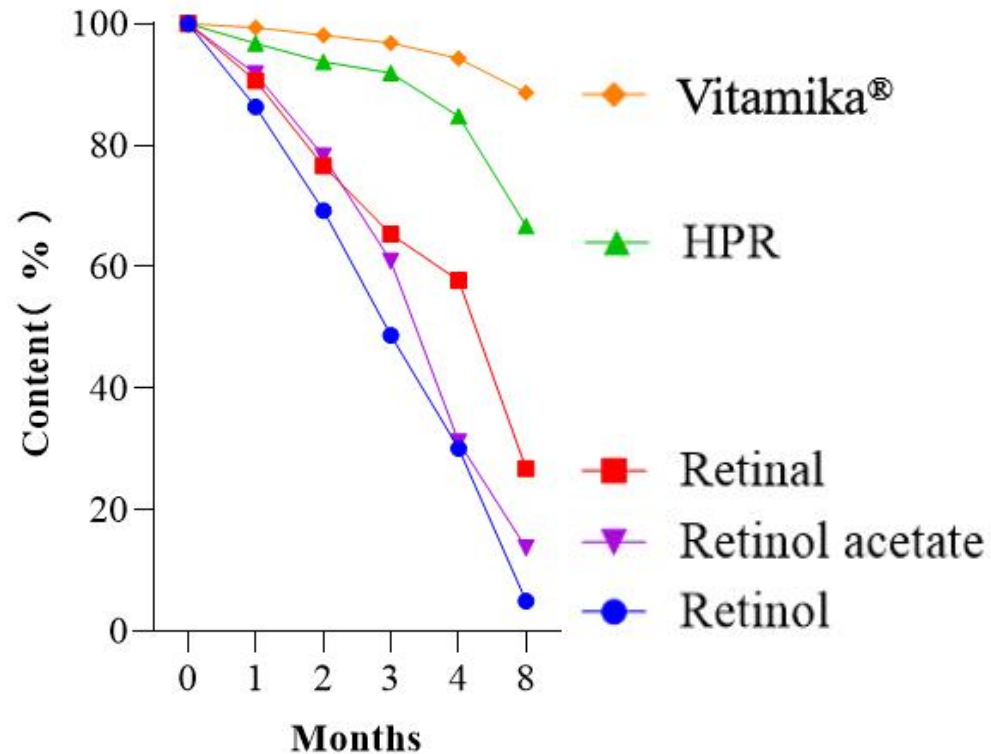
# Safety/Stability

# Anallerg<sup>®</sup> -- Vitamika<sup>®</sup>

Safety -- Photostability



## Light Exposure



◆ **Over 90%** Vitamika<sup>®</sup> maintained after 8 months

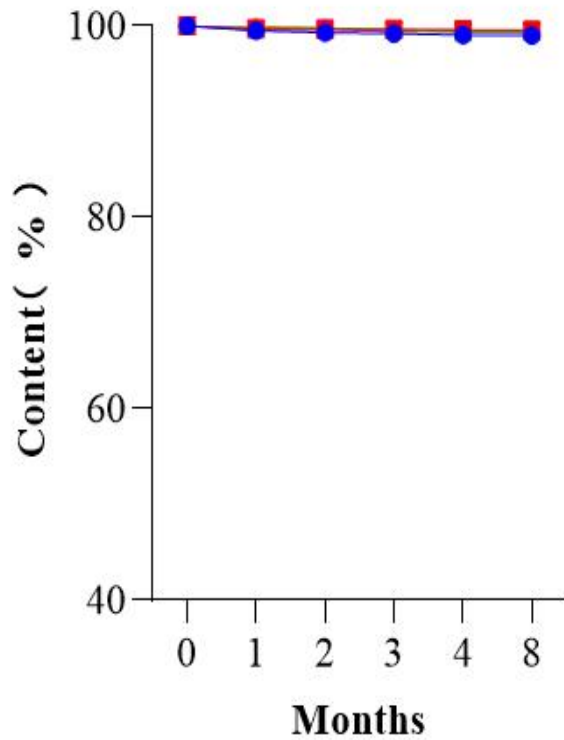
Vitamika<sup>®</sup> has **excellent Photostability**

# Anallerg<sup>®</sup> -- Vitamika<sup>®</sup>

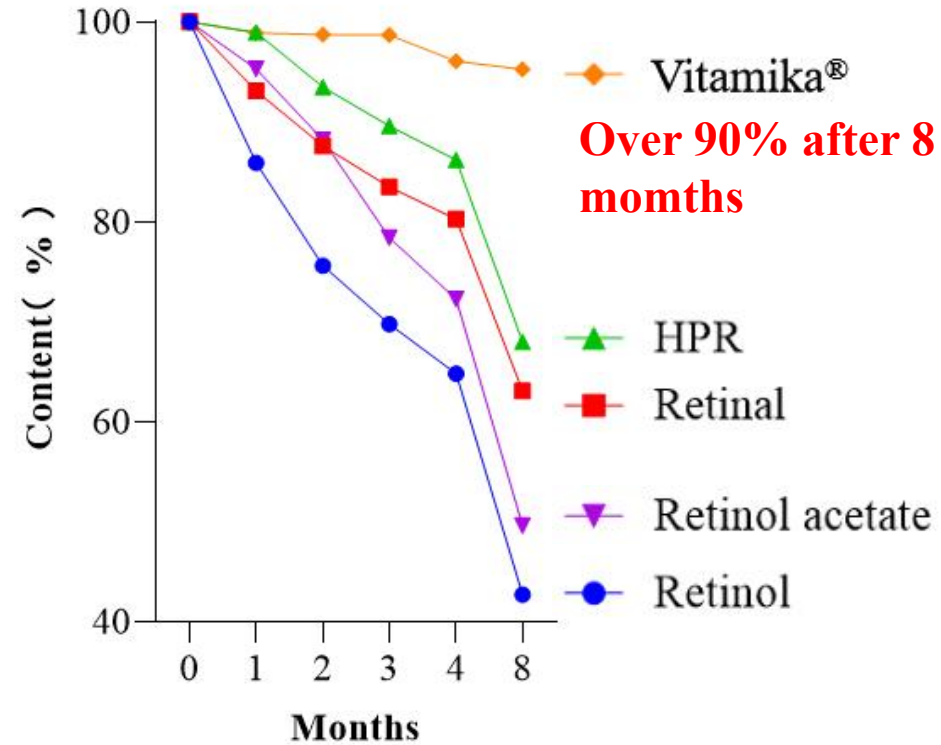
Safety -- Thermal Stability



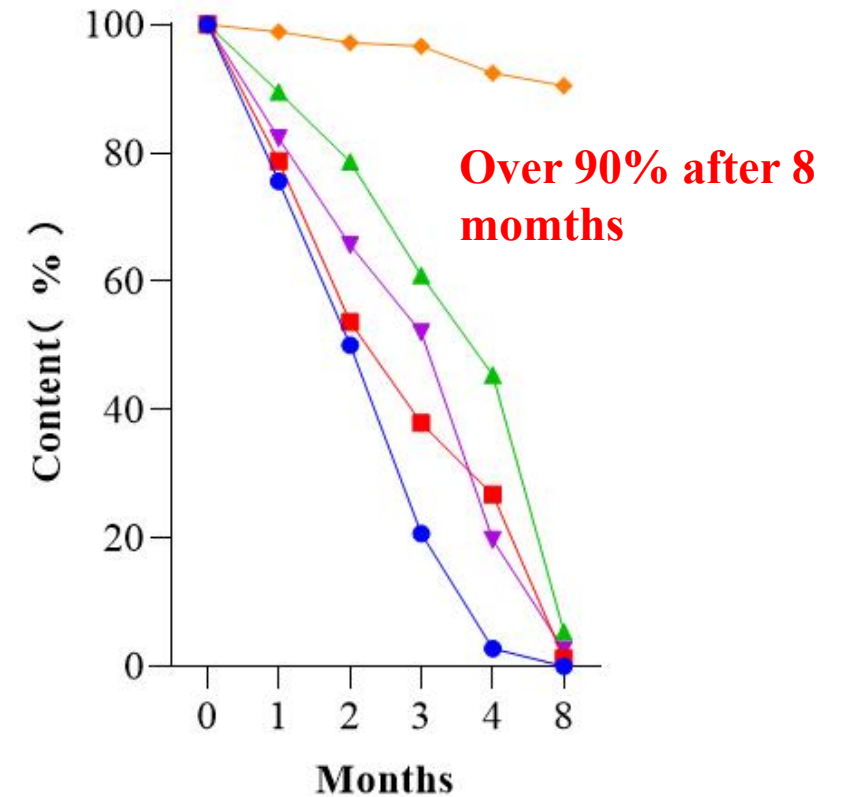
4°C



Ambient Temperature



45°C



Vitamika<sup>®</sup> exhibits excellent **Thermal Stability**

# Anallerg<sup>®</sup> -- Vitamika<sup>®</sup>

Safety -- Mammalian cell chromosome aberration test



## Mammalian cell chromosome aberration

Group	Concentration (µg/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
Vitamika <sup>®</sup>	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<sup>®</sup> is a non-mutagenic substance!**

# Anallerg<sup>®</sup> -- Vitamika<sup>®</sup>

## Safety -- The Bacterial Reverse Mutation Test



Ames test (Mean  $\pm$  SD)

Group	Concentration ( $\mu\text{g}/\text{dish}$ )	Number of colonies									
		TA98a		TA98		IA100		TA1535		WP2uvrApKM101	
		+S <sub>9</sub>	-S <sub>9</sub>	+S <sub>9</sub>	-S <sub>9</sub>	+S <sub>9</sub>	-S <sub>9</sub>	+S <sub>9</sub>	-S <sub>9</sub>	+S <sub>9</sub>	-S <sub>9</sub>
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
Vitamika <sup>®</sup>	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<sup>®</sup> is a non-mutagenic substance!**

# Anallerg® -- Vitamika®

## Safety -- The Human Skin Patch Test



### 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% Vitamika®	30	0.5h	30	0	0	0	0
		24h	30	0	0	0	0
		48h	30	0	0	0	0
2% Vitamika®	30	0.5h	30	0	0	0	0
		24h	30	0	0	0	0
		48h	30	0	0	0	0
5% Vitamika®	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

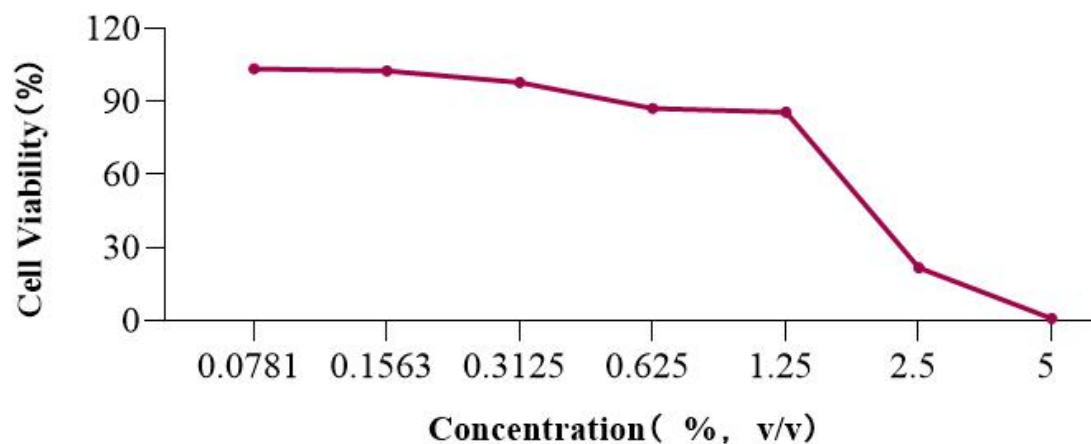
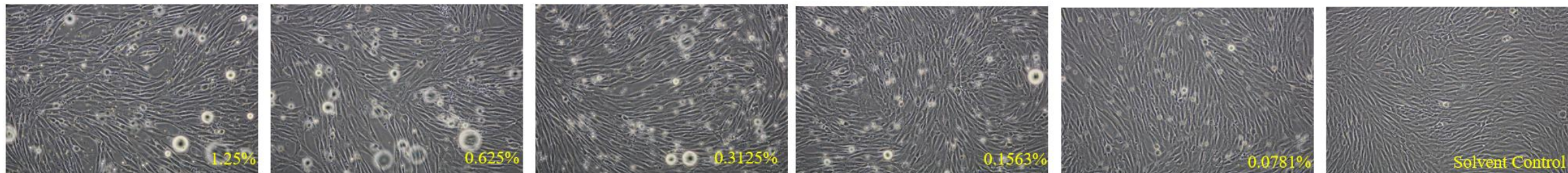
**Vitamika® is non-irritating!**

# Anallerg<sup>®</sup> -- Vitamika<sup>®</sup>

Safety -- Cytotoxicity Test Based on Human Dermal Fibroblasts



## ➤ The MTT colorimetric results of Vitamika<sup>®</sup> lotion



The Lotion showed no significant cytotoxicity in the concentration of 1.25% (Vitamika<sup>®</sup> contents 94 ppm)

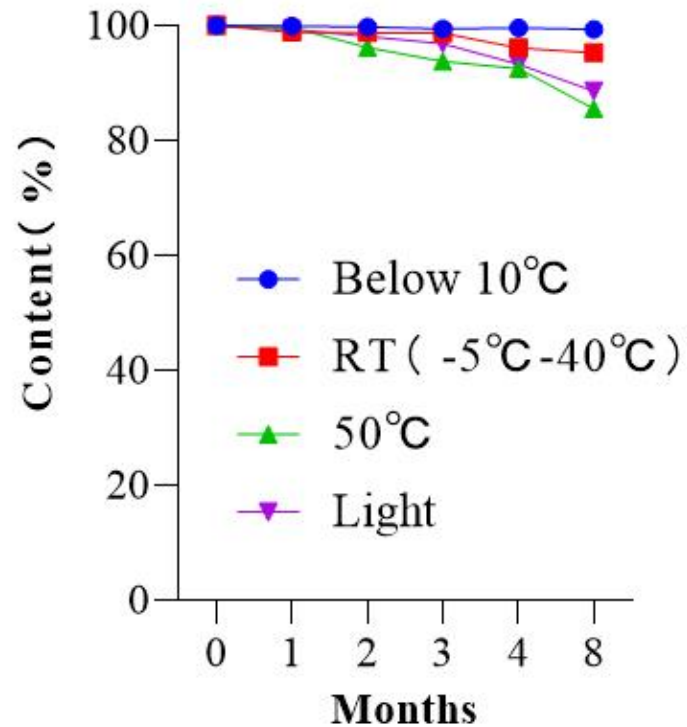
**Very low cytotoxicity.**

# Anallerg<sup>®</sup> -- Vitamika<sup>®</sup>

## Safety in Summary



### Stability of Vitamika<sup>®</sup>



- ◆ Excellent stability
- ◆ NO phototoxicity, no risk of photosensitization
- ◆ Non-mutagenic substance
- ◆ Non-irritating
- ◆ No risk of skin allergy
- ◆ No acute eye irritation
- ◆ No oral toxicity
- ◆ Very low Cytotoxicity

**No safety concern at all!**

# Anallerg<sup>®</sup> -- Vitamika<sup>®</sup>

## Solubility



### 10% Vitamika<sup>®</sup> in different solvents

Solubility	RT	-18°C for 24h
	<b>Dissolve uniformly</b>	
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
	<b>Dissolve uniformly</b>	<b>Precipitate out</b>
Oils	cyclopentasiloxane (CM5)、diethoxyethyl Succinate	



**Anallerg**<sup>®</sup>

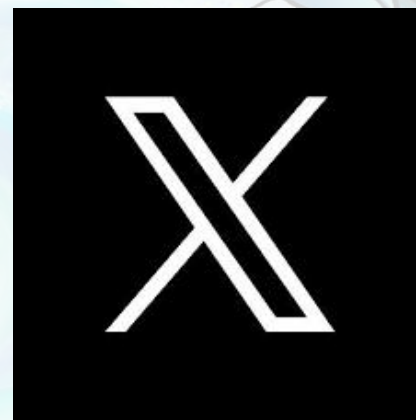
**EffeMIX**<sup>®</sup>



**Website**



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