ZLEY®

妝萊集團

INNOVATIVE ELEMENTS TO AMELIORATE LIFE

ZLEY®FUPOLURRY

Precision Skincare Targeted by Skin Exposome and Biomimetic Sebum Technology – Rescuing Time-Stressed Skin

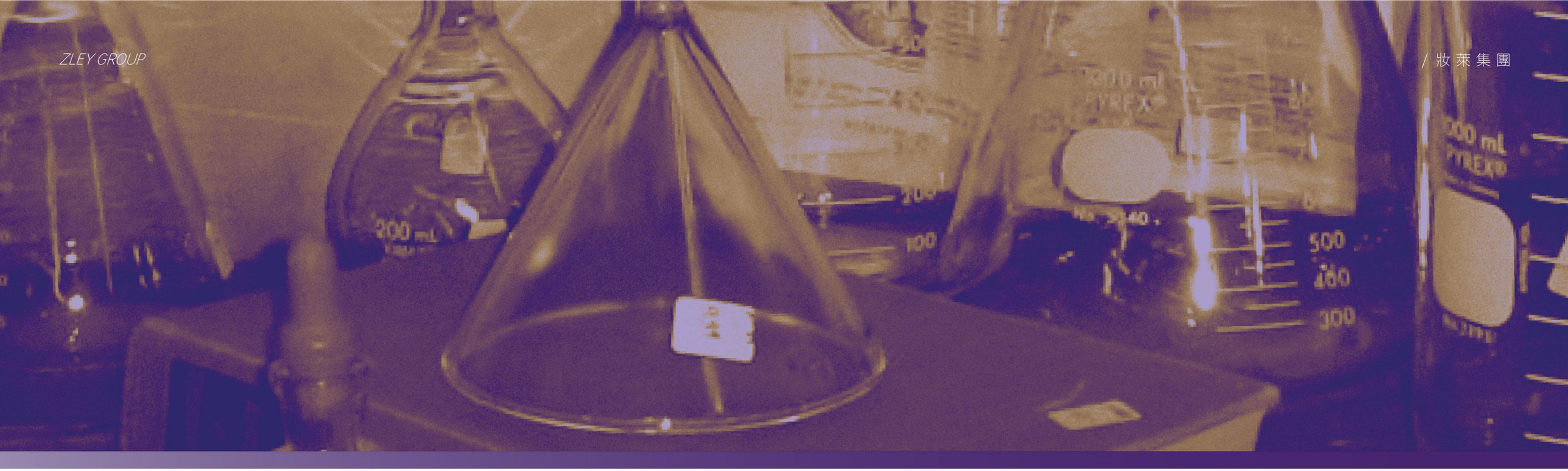
WHO WE ARE

COMMITTED TO AMELIORATE LIVE, WITH TECHNOLOGY

Driven by a vision of innovation and development, we are dedicated to producing high-quality raw materials for the global personal care industry, addressing the growing demand for functional ingredients. Our products are designed to promote skin rejuvenation, brightening, antioxidant, and anti-inflammatory benefits.

「123」

1 factory located in Weinan, Shaanxi Province
2 Innovation research and development centers
3 subsidiaries: [China] Guangzhou [Hongkong] and [Singapore] Over 200 employees



WHAT WE DO

COMMITTED TO AMELIORATE LIVE, WITH TECHNOLOGY

「Herbalism」

The cosmetic industry is actively exploring new neurocosmetic ingredients to enhance the connection between the skin and the nervous system. We harness plant extracts with soothing and anti-inflammatory properties to alleviate skin irritations, reduce redness, and support a healthier complexion.

「Metropolitan」

We are committed to continuously exploring innovative formulations for effective skin rejuvenation. Our team leverages advanced technologies and novel ingredients to push the boundaries and unlock new possibilities in this field.

「Revolution」

We utilize innovative technologies and ingredients to deliver exceptional results in skin brightening. Our ongoing research focuses on addressing pigmentation issues and promoting a radiant complexion.

PATENT CERTIFICATE

ZL 2022 1 1022382.9
Anti-inflammatory and Repairing Composition Containing Ethylene Glycol Salicylate and Its Preparation Method and Application

ZL 2022 1 1306298.X
Supramolecular Vesicle Aggregates of 4-Butylresorcinol and Their Preparation Method and Cosmetic Composition

ZL 2022 1 1147913.7
Microencapsulated Kava Extract and Its Preparation Method and Application

ZL 2016 1 0490027.2
Anti-Aging Cosmetic Composition and Its Preparation Method

ZL 2022 1 1648008.X
Composition Containing Amino Acid Derivatives for Regulating Skin Microbiota

ZL 2022 1 1038113.1
Anti-Acne, Whitening, and Antioxidant Essential Oil Composition Containing Ferulic Acid Derivatives and Its Preparation Method

ZL 2022 1 1187356.1
Composition for Skin Conditioning, Whitening, and Brightening, and Essence Lotion

ZL 2015 1 0077009.7
Preparation Method of High-Purity Piperazine

ZL 2023 1 0925891.0
Composition and Its Use in Improving Skin Barrier Function, and Skincare Product

ZL 2022 1 1251631.1
Liposomes Containing Ferulic Acid and Its Derivatives, Preparation Method, and Application

ZL 2015 1 0170034.X
Method for Synthesizing 2,4-Dihydroxyacetophenone and Recycling Wastewater

ZL 2014 1 0245210.7
Preparation Method of Half-Fumarate Quetiapine

ZL 2023 1 1500453.6
Deodorizing Composition, Its Preparation Method, and Application

ZL 2023 1 1366456.5
Peony Root Bark Extract-Based Perfume with Lemon Fragrance, Preparation Process, and Application

ZL 2024 1 0785149.9
Preparation Method of Highly Active Trigonella Extract and Its Uses in Care Products

ZL 2024 1 0726523.8
Preparation Method of Hydroxypinacolone Retinoate

ZL 2024 2 1028204.1 (Utility model patent)
Ultrasonic Cleaner for Cosmetic Testing

ZL 2024 1 0576240.X
Composition for Reducing Periorbital Skin Issues, Its Preparation Process, and Application

MORE PATENT APPLICATIONS ARE PENDING...

I&D STRENGTH

「BIRI」

(Biotechnology Innovation Research Institute)

Our team of experienced biologists leads the R&D efforts to identify active skincare ingredients with proven efficacy, high potency, and stability through experimental protocols, strain culture, and fermentation optimization.

Our facility adheres to the national laboratory safety standards GB 19489-2011, including P2 and biochemical laboratory requirements.

「FOSCRC」

(Functionality of Skin Care Research Center)

As society progresses and technology advances, there is a growing demand for effective skin care and a deeper understanding of cosmetics. At our Functional Skincare Research and Development Center, we focus on exploring skincare products through chemical testing and cell assays to study their functions and properties.

「FOSCTEC」

(Functionality of Skin Care Testing&Evaluation Center)

We partner with a professional third-party testing institute specializing in cosmetics, cosmetic raw materials, and pharmaceutical intermediates to ensure rigorous and reliable product testing.

「ZLEY®FUPOLURRY」

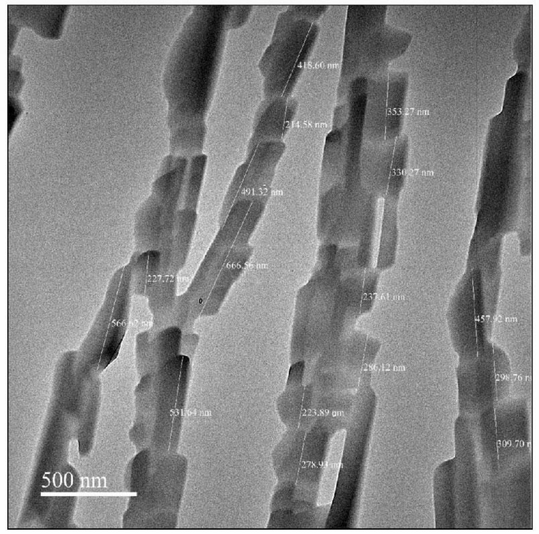
ZLEY®Fupolurry , Ferulic acid as the main active substance, supplemented by photoprotectant (INCI: Diethylhexyl Syringylidenemalonate) synergistic efficiency, combined with the sebum components (INCI: Hydrogenated Lecithin, Caprylic/Capric Triglyceride, Cera Alba)as the propermeability carrier, scientific ratio, forming a 3D mosaic configuration of composite bionic sebum lipid composition, enhance permeability and efficacy.

By employing a three-dimensional approach, the stability of ferulic acid against oxidation, its photostability, and its solubility for application were improved, thereby enhancing the bioavailability of ferulic acid.

Based on the research of skin exposure omics and bionic sebum technology, simulate the physiological characteristics of human skin surface, activate Nrf 2 / HO-1 antioxidant signaling pathway, enhance autophagy and inhibit the activation of NLRP3 inflammasome, remove excessive ROS, reduce skin inflammation, resist light aging, prevent DNA damage, repair DNA, precise target skin care, comprehensive precision against endogenous and exogenous skin exposure group to the skin injury, enhanced skin health.

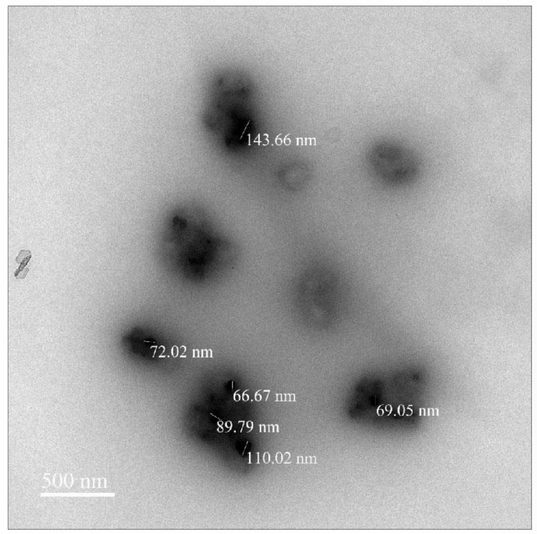
「ENHANCE THE STABILITY, PERMEABILITY,AND EFFICACY OF THE ACTIVE AGENTS」

ZLEY®FA-TEM



(Figure 1)

ZLEY®FUPOLURRY-TEM



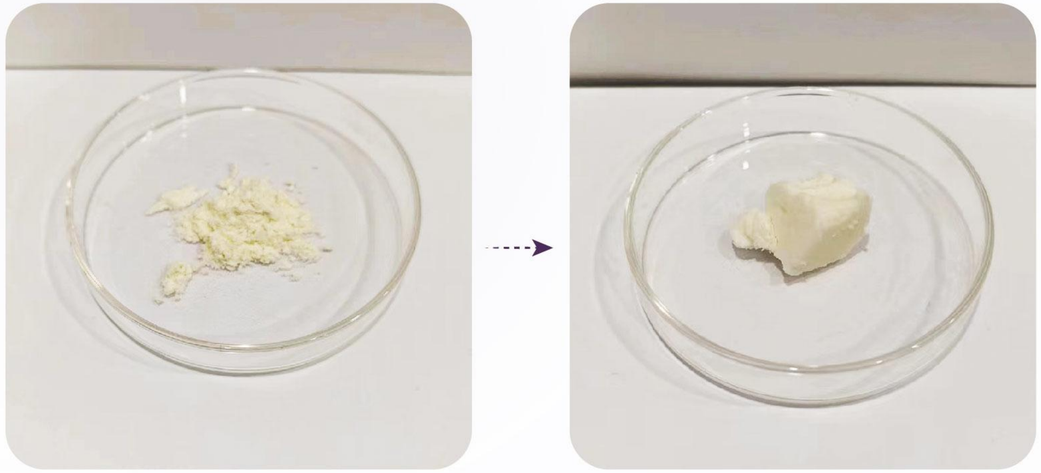
(Figure 2)

Compared to the elongated needle-like crystals of ZLEY®FA - ferulic acid, ZLEY®FUPOLURRY exhibits a 3D block co-loaded single-crystal structure, which significantly reduces particle size, improves solubility, and enhances the stability and permeability of the active ingredient, thereby more effectively increasing its bioavailability.

*数据来源：ZLEY LAB

「PHYSICAL AND CHEMICAL STABILITY」

ZLEY®FUPOLURRY selects D0, D30, D60, D90, set normal temperature, low temperature (4℃), cold resistance (-15℃), light and heat resistance (45℃), the cold and cold cycle (-15℃ / 45℃) investigated the conditions and passed the stability test.



「TEST RESULT」

- ZLEY®FUPOLURRY at room temperature (protected from light / protected from light)Under low temperature light (light coating material), 90 days without color stability is excellent。

- Under the conditions of heat resistance and heat and cold circulation, the color of the material is deepened, and the 2% applied formula can fully pass the stability test.
  Storage conditions: Storage at room temperature

*数据来源：ZLEY LAB

「THE 24H PERMEABILITY WAS INCREASED BY 62%」

Using the same blank emulsion matrix, by comparing the transdermal diffusion experiments between (sample a) ZLEY®FA and (sample b) ZLEY®FUPOLURRY, The cumulative osmotic capacity and diffusivity of ferulic acid were calibrated, and the experimental results are shown in Fig.

COMPARISON OF THE RESULTS OF CUMULATIVE FERULIC ACID PERMEABILITY IN SAMPLES A AND B

TIME	Cumulative penetration(μg)	
	SAMPLE A(ZLEY®FA)	SAMPLE B ZLEY®FUPOLURRY
2h	5.41±0.30	15.36±0.56
4h	19.16±0.60	53.89±2.54
8h	57.68±081	132.58±1.82
12h	95.69±1.05	198.42±1.07
24h	254.08±1.47	429.13±4.20

THE RESULTS OF FERULIC ACID DIFFUSION IN SAMPLES A AND B

TIME	Percentage conversion(%)	
	SAMPLE A(ZLEY®FA)	SAMPLE B(ZLEY®FUPOLURRY)
2h	0.54%	1.48%
4h	1.91%	5.17%
8h	5.75%	12.73%
12h	9.54%	19.06%
24h	25.32%	41.20%

According to the above experimental data, **0.25% ZLEY®FA (100%)** emulsion was subjected to transdermal absorption test, where ferulic acid was permeable, **24h** cumulative penetration amount was (254.08 ± 1.47) μ g, and the diffusion rate was **25.32%.1% ZLEY®FUPOLURRY (25%)** emulsion was tested for transdermal absorption, and the cumulative permeability of ferulic acid was μ g (429.13 ± 4.20), and the diffusion rate was **41.20%**, indicating that ZLEY®FUPOLURRY greatly improved the penetration efficiency and bioavailability of ferulic acid compared with monomer ferulic acid。

*数据来源：ZLEY LAB

「THE 24H PERMEABILITY WAS INCREASED BY 62%」

Figure 1: cumulative subcutaneous penetration of ferulic acid at different times

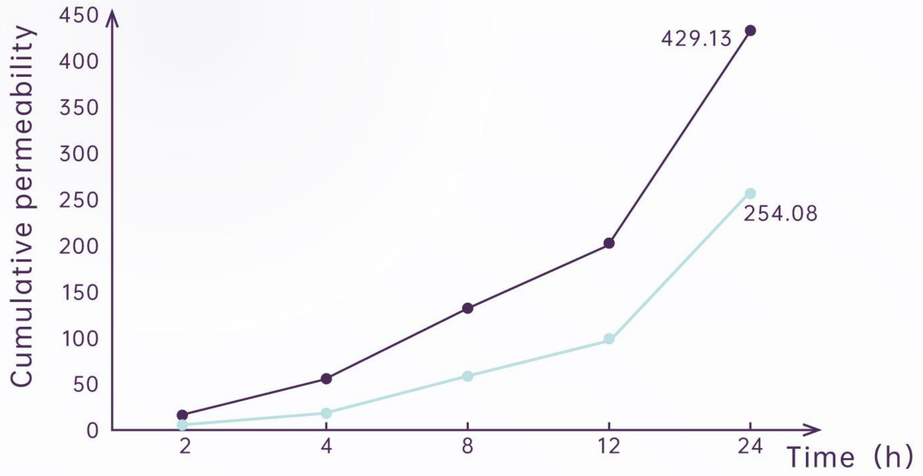
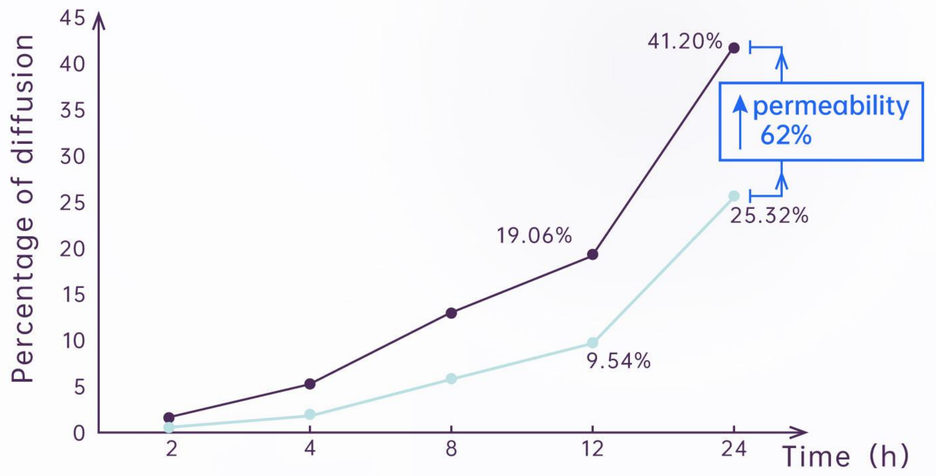


Figure 2: Percent subcutaneous diffusion of ferulic acid at different times



As shown, ZLEY®FUPOLURRY greatly improved the bioavailability of ferulic acid compared to the monomeric ferulic acid, with a significant increase in the diffusivity rate of 62% compared with the cumulative permeability of the monomer.

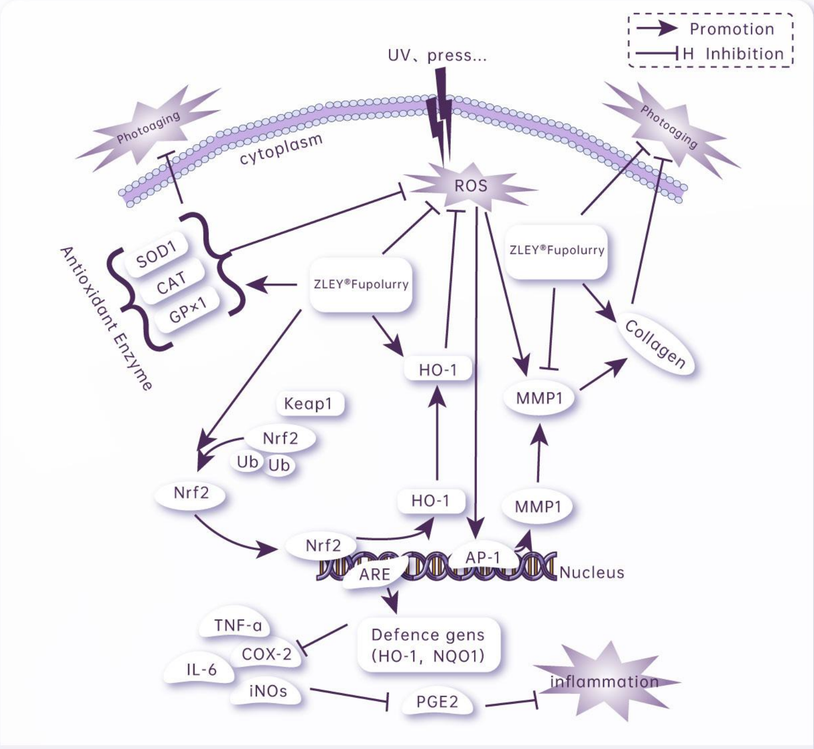
*数据来源：ZLEY LAB

ACTIVATE THE ENDOGENOUS ANTIOXIDANT PATHWAYS AND REGULATE REDOX HOMEOSTASIS

Nuclear factor E2-related factor 2 (Nrf 2) is the central regulator of maintaining intracellular redox homeostasis. By inducing and regulating the constitutive and inducible expression of a series of antioxidant proteins, it can reduce the cell damage caused by reactive oxygen species and electrophiles, so that The cells are in a stable state and maintain the dynamic balance of redox body。

Such as GR、SOD GSH-Px GPx、CAT、GCL HO-1, to resist ROS and enhance cells activity。

It has been shown that ferulic acid initiates Nrf 2 nuclear translocation in a dose-dependent manner
Upregulated the mRNA and protein expression of HO-1。
Demonstrated that it could promote through activation of Nrf 2 / HO-1 endogenous antioxidant signaling pathway
The generation of antioxidant enzymes such as SOD, CAT and GPx can improve the antioxidant defense energy force, inhibiting oxidative stress damage.



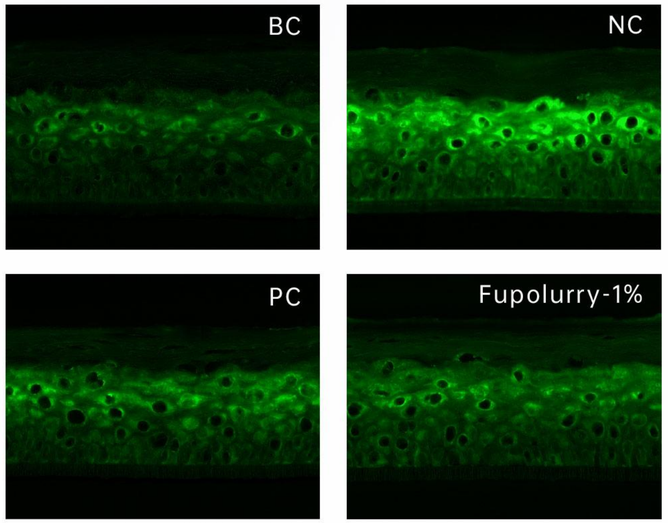
ZLEY®Fupolurry- 3D Mechanism diagram of antioxidant

* Ref: Ferulic Acid Protects Human Lens Epithelial Cells against Ionizing Radiation-Induced Oxidative Damage by Activating Nrf2/HO-1 Signal Pathway. Oxid Med Cell Longev. (2022)

「 ANTIOXIDANT (ROS)」

Enhance the ability to remove excess ROS and protect HLECs from oxidative damage.

(Figure 1)



(Figure 2)

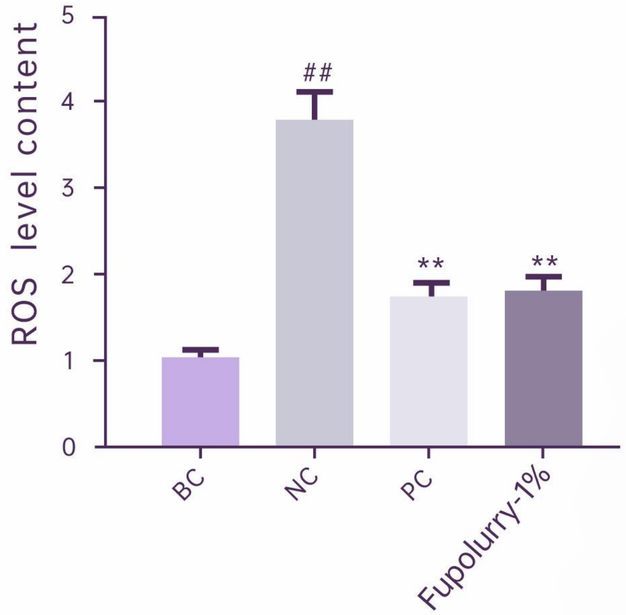


Figure 1:

Using fluorescence imaging, compared with the BC group, ROS levels in the NC group increased significantly, indicating that the stimulation conditions in this test were effective. Compared with the NC group, ROS levels in the PC group decreased significantly, confirming the validity of the positive control.

Figure 2:

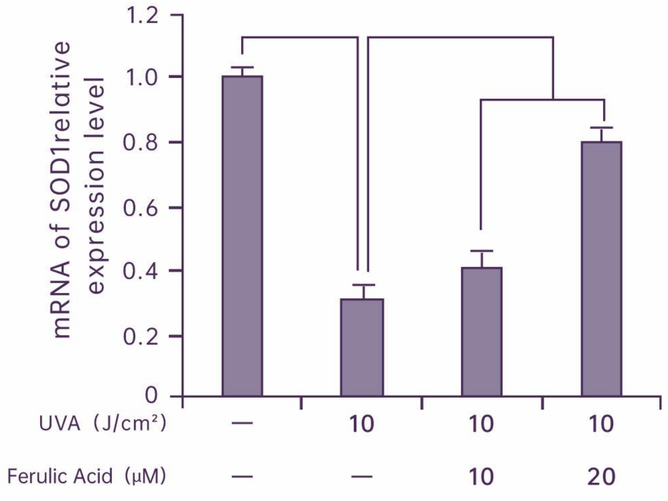
Compared with the NC group, treatment with ZLEY®FUPOLURRY at 1% resulted in a significant reduction in ROS levels, with an inhibition rate of **53.05%**, demonstrating a strong capacity to scavenge excessive ROS.

*数据来源：ZLEY LAB

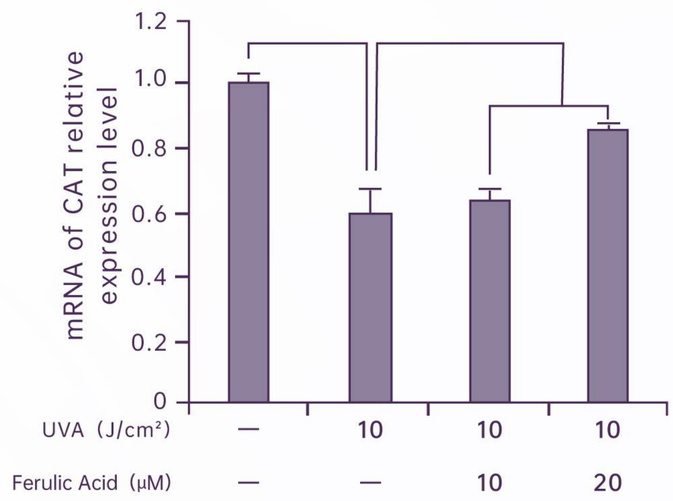
ANTIOXIDANT (PROMOTING THE GENERATION OF ANTIOXIDANT DEFENSE ENZYMES)

Can reduce oxidative stress in human dermal fibroblasts (HDFs) induced by UVA exposure

(Figure1)



(Figure2)



As shown in the figure, SOD (superoxide dismutase) and CAT (catalase) are antioxidant defense enzymes that respond to oxidative stress.

Under treatment with a certain concentration of ferulic acid (0.195 mg/L), it can promote the transcriptional level of endogenous antioxidant defense enzymes under UV irradiation, thereby helping to maintain the body's intrinsic oxidative balance."

*Ref: Pretreatment of Ferulic Acid Protects Human Dermal Fibroblasts against Ultraviolet A Irradiation[J]. Annals of Dermatology, 2016, 28(6):740-748.

Test report

No:ZLEY-SX-2023031

Table 2 The DPPH clearance test results

Sample name	Concentration (mg/mL)	Clearance mean value (%)	SD (%)	IC_{50}
Vitamin E	0.01	26.15	0.37	0.030mg/mL
	0.02	43.55	0.65	
	0.04	67.35	0.61	
	0.08	90.62	0.59	
ZLEY®FA	0.003125	5.33	0.62	0.033mg/mL
	0.00625	13.15	0.78	
	0.0125	22.75	0.96	
	0.025	48.46	0.84	
	0.05	68.13	0.52	
ZLEY®FUPOLURRY	0.0625	46.21	0.81	0.1mg/mL
	0.125	50.24	0.69	
	0.25	65.23	0.70	
	0.5	79.63	0.87	

ANTIOXIDANT ACTIVITY (DPPH RADICAL SCAVENGING ABILITY)

According to T/SHRH006-2018 Cosmetics–Free Radical (DPPH) Scavenging Test Method, vitamin E was used as a positive control to evaluate the DPPH radical scavenging activity of ZLEY®FUPOLURRY and ZLEY®FA - Ferulic Acid. The results are shown in the table on the right.

Experimental data indicated that the IC_{50} values for DPPH scavenging were **0.1 mg/mL** for ZLEY®FUPOLURRY and **0.033 mg/mL** for ZLEY®FA - ferulic acid.

When recalculated based on the ferulic acid content, the IC_{50} values are: ZLEY®FUPOLURRY(25%) < ZLEY®FA – Ferulic Acid (0.025 mg/mL < 0.033 mg/mL)

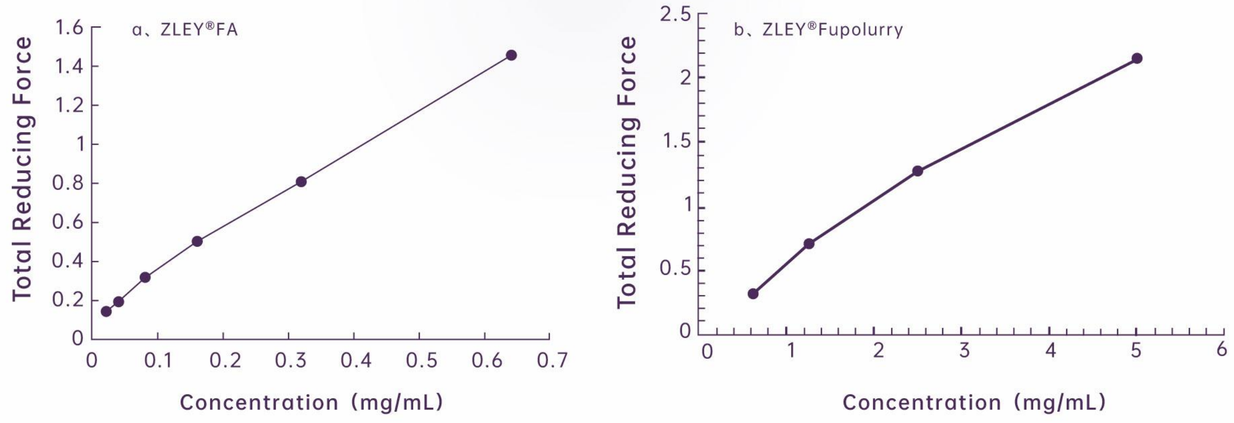
This indicates that, after adjusting for ferulic acid content, ZLEY®FUPOLURRY and ferulic acid exhibit comparable antioxidant activity.

*数据来源：ZLEY LAB

「ANTIOXIDANT RESISTANCE (TOTAL REDUCING FORCE)」

According to the experimental method of Q / SXZL006-2022, the concentration of ZLEY®FUPOLURRY cocarrier and ZLEY®FA-ferulic acid samples and total reducing force were tested, and the results are shown in the following figure.

ZLEY®FA-ferulic acid, ZLEY®FUPOLURRY concentration and total reducing force relationship curve



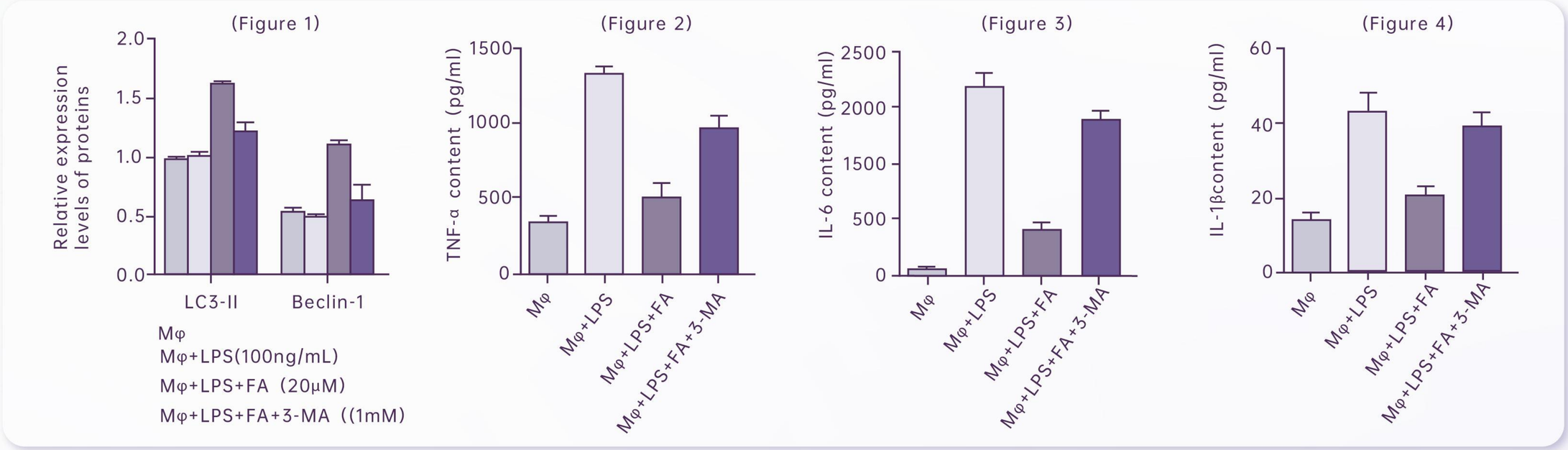
The experimental data indicate that, when the total reducing power equals 1, the concentrations of ZLEY®FUPOLURRY and ZLEY®FA - ferulic acid are 1.87 mg/mL and 0.415 mg/mL, respectively.

When recalculated based on the ferulic acid content, at the same total reducing power of 1, their effective concentrations are: ZLEY®FA-Ferulic Acid < ZLEY®FUPOLURRY (25%) (0.415 mg/mL < 0.468 mg/mL). This demonstrates that, after adjusting for ferulic acid content, ZLEY®FUPOLURRY and ZLEY®-FA-Ferulic Acid exhibit comparable Fe^{3}-reducing capacity.

*数据来源：ZLEY LAB

「ENHANCE AUTOPHAGY IN IMMUNE CELLS」

a. Inhibition of inflammatory responses by enhancing autophagy



▶ Figure 1: The expression levels of autophagy-related proteins (LC3, Beclin-1) were increased in the cells treated with ferulic acid (FA), indicating the occurrence of autophagy

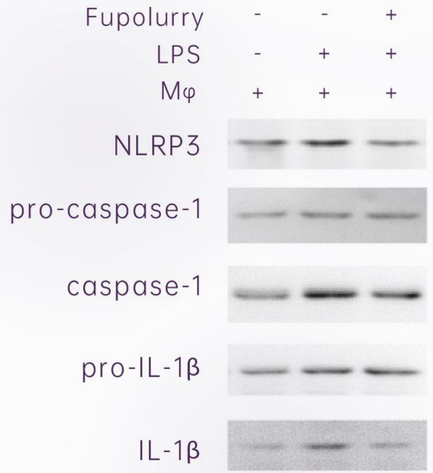
▶ Figures 2,3 and 4: Cells treated with ferulic acid induced autophagy to inhibit the release of inflammatory factors (TNF- α, IL-6, and IL-1 β).

Mφ: THP-1-derived macrophages; LPS: lipopolysaccharide; FA: ferulic acid; 3-MA: an inhibitor of autophagy

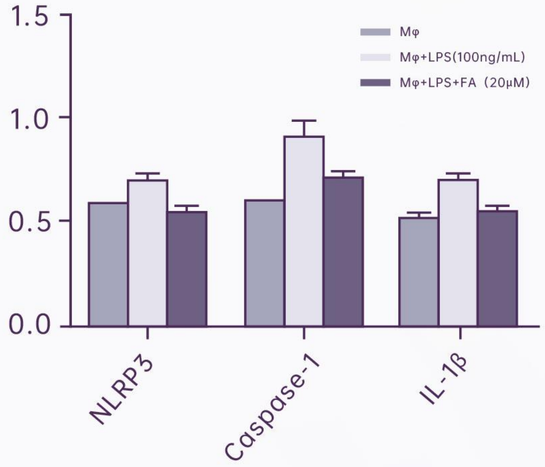
*Ref: Ferulic acid exhibits anti-inflammatory effects by inducing autophagy and blocking NLRP3 inflammasome activation. Mol Cell Toxicol. 2022;18(4):509-519.

「BLOCKING THE INFLAMMASOME ACTIVATION」

b. Inhibition of LPS-induced NLRP3 inflammasome activation



(Figure 1)



(Figure 2)

Figure 1:
Protein expression levels of NLRP3, pro-caspase-1, caspase-1, pro-IL-1β, and IL-18 were detected by Western blot analysis.

Figure 2:
Analysis of the effects of FA on the expression of NLRP3, caspase-1, and IL-1β.

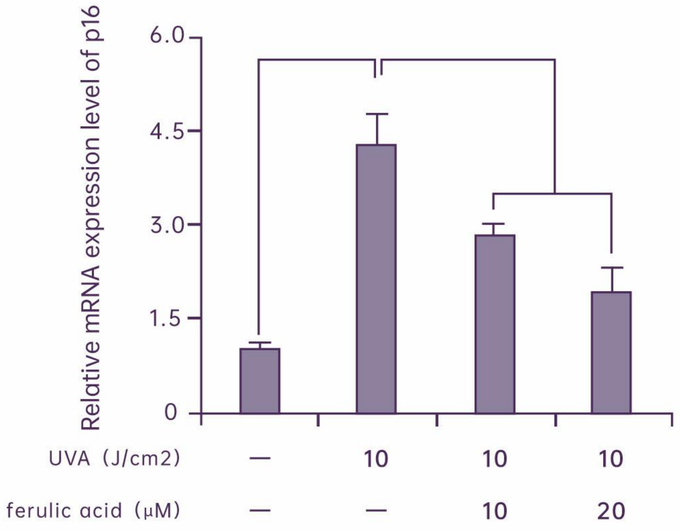
▶ In cells treated with ferulic acid (FA), the activation of NLRP3 inflammasome and the expression of Caspase-1 and IL-1 β were inhibited.

Caspase-1：半胱氨酸蛋白酶-1，是炎症小体的一部分，参与炎症反应，会导致程序性细胞死亡。
*Ref：Ferulic acid exhibits anti-inflammatory effects by inducing autophagy and blocking NLRP3 inflammasome activation. Mol Cell Toxicol. 2022;18(4):509-519.

「ANTI-PHOTOAGING: PROVIDES PHOTOPROTECTIVE EFFECTS」

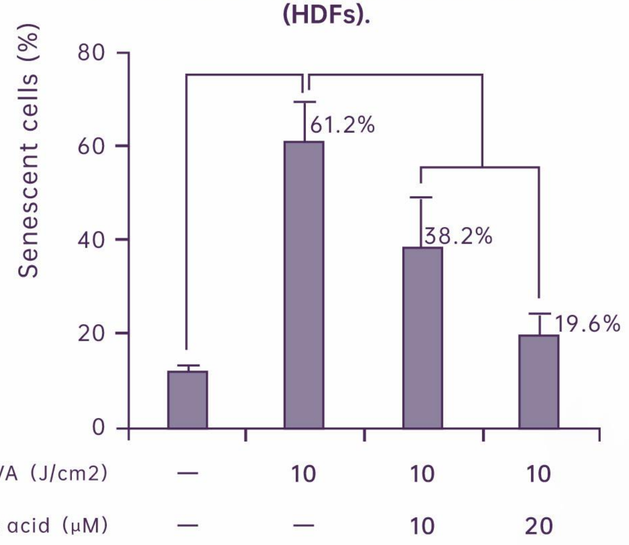
Modulates the expression of senescence marker genes to inhibit cellular aging

Figure 1: p16 as a marker of cellular senescence



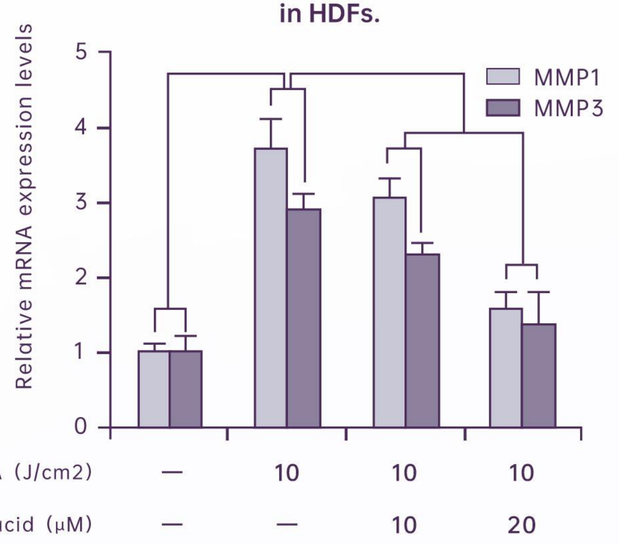
(Figure1)

Figure 2: Ferulic acid inhibits UVA-induced senescence in human dermal fibroblasts (HDFs).



(Figure2)

Figure 3: Ferulic acid suppresses UVA-induced relative gene expression of MMP1 and MMP3 in HDFs.



(Figure3)

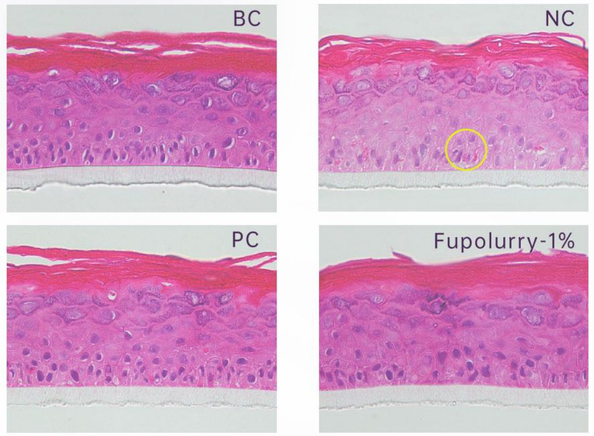
Ferulic acid inhibits the formation of senescent cells after UVA exposure, reduces the expression of MMP1 and MMP3, and helps restore the extracellular matrix (ECM).

*Ref: Pretreatment of Ferulic Acid Protects Human Dermal Fibroblasts against Ultraviolet A Irradiation[J]. Annals of Dermatology, 2016, 28(6):740-748.

「ANTI-PHOTOAGING: PROVIDES PHOTOPROTECTIVE EFFECTS」

b. Protect tissue cells from sunburn and maintain skin homeostasis

(Figure 1)



(Figure 2)

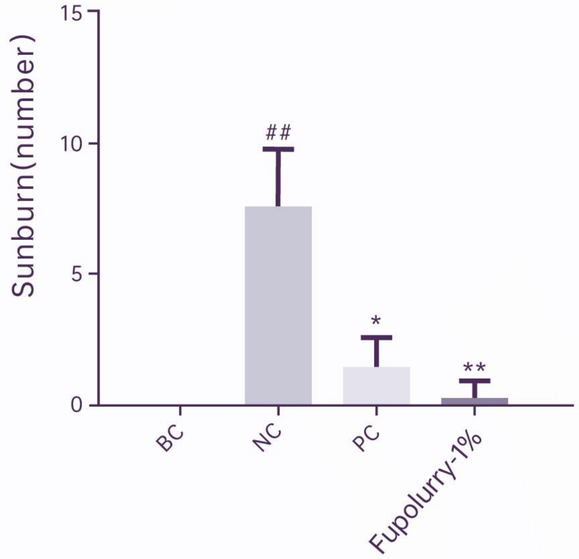


Figure 1:
Compared with the BC group, the Sunburn cell of the patients in the NC group increased significantly, indicating that the stimulation condition in this test was effective. Compared with the NC group, the Sunburn cell of the PC group decreased significantly, indicating that the positive control of this test was effective.

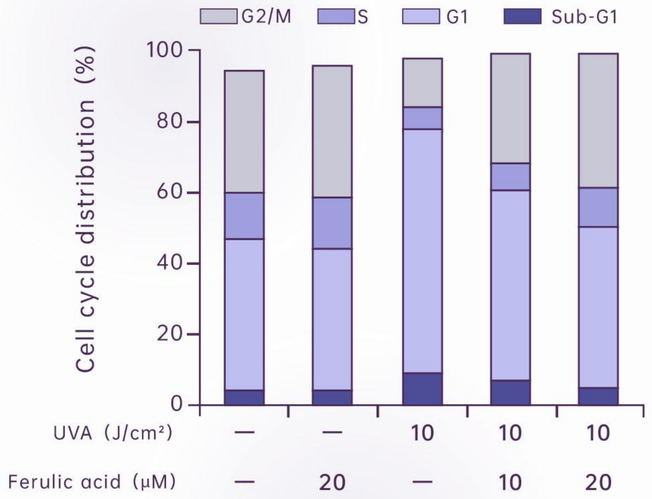
Figure 2:
Compared with the NC group, the sample ZLEY ®Fupolurry-3D -1% Sunburn cell was decreased significantly, and the inhibition rate was **95.70%**, indicating that ZLEY ®Fupolurry could completely inhibit tissue damage under UV stimulation and provide photoprotection.

Reduces light-induced tissue cell damage and provides photoprotective mechanisms

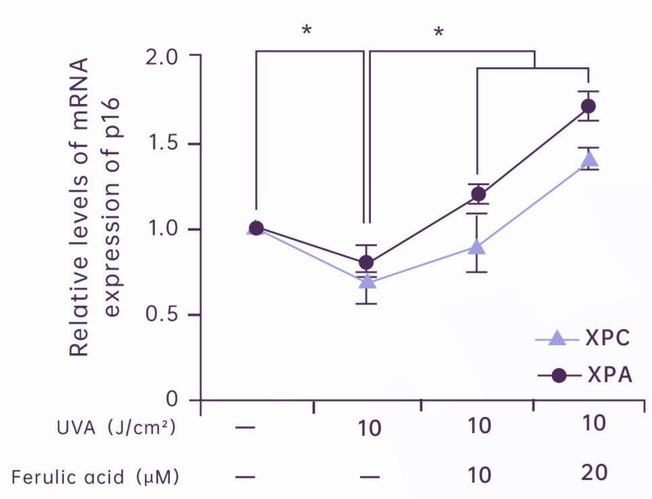
*数据来源：ZLEY LAB

「ANTI-PHOTOAGING: PROVIDES PHOTOPROTECTIVE EFFECTS」

c. Protect human dermal fibroblasts (HDFs) from photodamage by UVA and promote DNA repair



(Figure1)



(Figure2)

Figure 1:

The senescence arrest occurs mainly in the G1 phase of the cell cycle

Figure 2:

Photorepair enzymes, such as XPA and XPC, are nucleotide excision repair (NER) factors expressed during the repair of UV-induced DNA damage and can effectively repair UV-induced factors

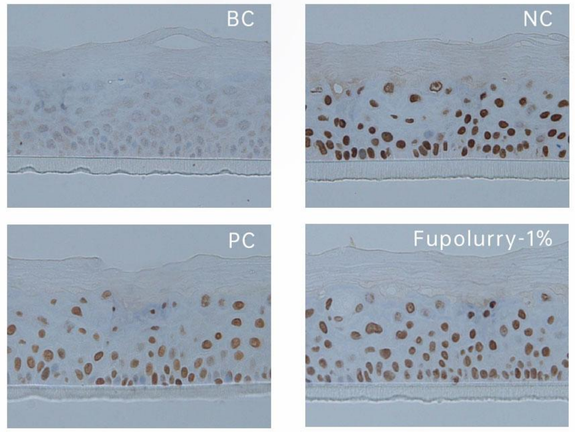
Reducing the G1 phase arrest induced by UVA in the cell cycle significantly promotes XPA and XPC expression and promotes DNA repair of HDFs

*Ref: Pretreatment of Ferulic Acid Protects Human Dermal Fibroblasts against Ultraviolet A Irradiation[J]. Annals of Dermatology, 2016, 28(6):740-748.

「REPAIR OF DNA DAMAGE AND PROVIDE PHOTOPROTECTION」

a. Improve the photoproduct clearance process and repair the DNA damage

(Figure1)



(Figure2)

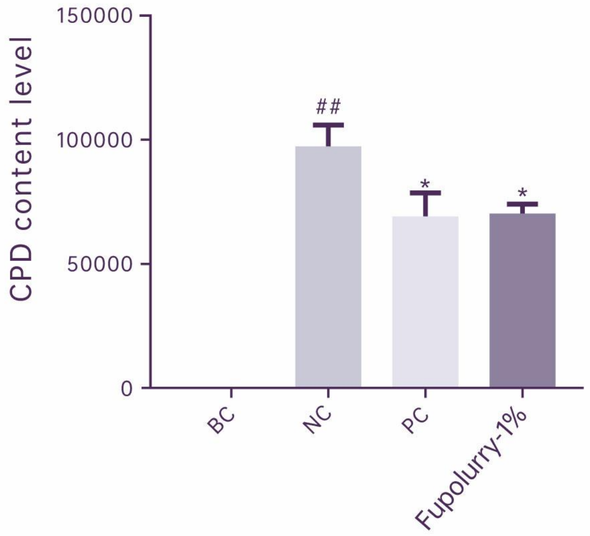


Figure 1:
Compared with the BC group, the CPD levels were significantly increased in the NC group The stimulation condition of this test is valid;
in PC group compared to NC group The level of CPD decreased significantly, indicating that the positive control of this test was effective.

Figure 2:
Compared to the NC group, sample ZLEY®Fupolurry- 3D -1% showed a significant decrease in CPD levels with a inhibition rate of **28.93%**, indicating that ZLEY®Fupolurry used UV stimulation Conditions, with the ability to accelerate the clearance of the resulting DNA damage products

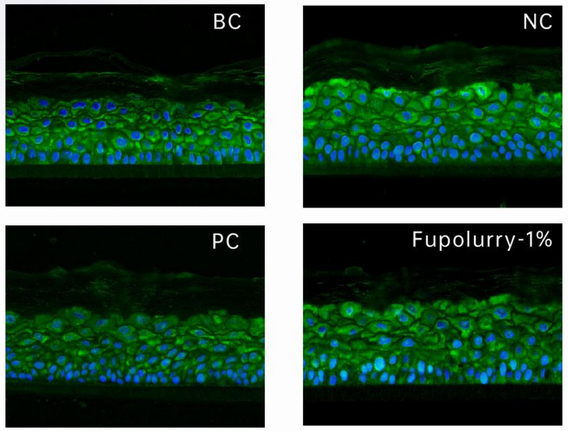
Reduce the generation of UV-induced photoproducts (CPD) and accelerate DNA damage repair

*数据来源：ZLEY LAB

「REPAIR OF DNA DAMAGE AND PROVIDE PHOTOPROTECTION」

b. Facilitates the clearance of photoproducts and promotes DNA damage repair

(Figure1)



(Figure2)

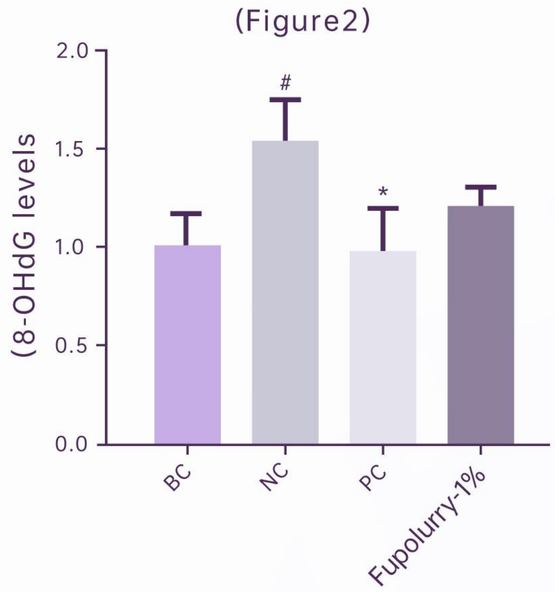


Figure 1:
As shown in Figure 1, compared with the BC group, 8-OHdG levels in the NC group increased significantly, indicating that the stimulation conditions in this test were effective. Compared with the NC group, 8-OHdG levels in the PC group decreased significantly, confirming the validity of the positive control.

Figure 2:
As shown in Figure 2, treatment with 1% ZLEY®FUPOLURRY showed a trend toward reduced 8-OHdG levels compared with the NC group, but the decrease was not statistically significant. This is because 8-OHdG is indirectly generated by UVA-induced ROS, constitutes a small proportion, and endogenous repair occurs rapidly.

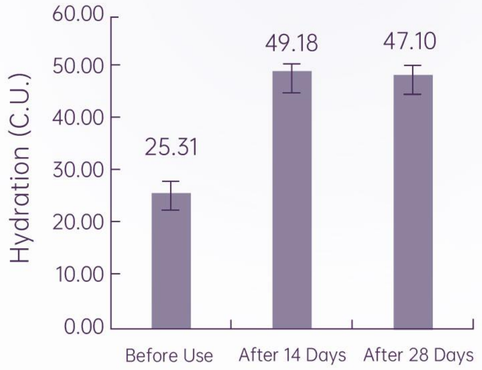
Reduces the formation of UV-induced photoproducts (8-OHdG levels) and accelerates DNA damage repair

*数据来源：ZLEY LAB

「ENHANCES SKIN HYDRATION AND STRENGTHENS THE SKIN BARRIER」

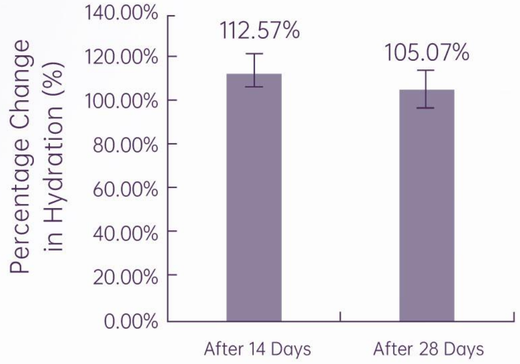
A clinical efficacy study showed that after 28 days of using a cream containing 2% ZLEY®FUPOLURR on 30 subjects, stratum corneum hydration increased significantly by **105.07%** (P<0.001), and transepidermal water loss (TEWL) decreased significantly by **26.79%** (P<0.001). This indicates that at 2% concentration, ZLEY®FUPOLURR can stabilize skin moisture and enhance skin barrier integrity.

Average Stratum Corneum Hydration



(Figure1)

Change Rate of Stratum Corneum Hydration (%)



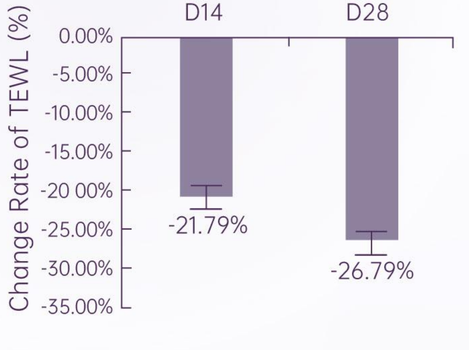
(Figure2)

Figures 1 & 2: Changes in stratum corneum hydration after 28 days of using a sample containing 2% ZLEY®FUPOLURRY

Average Transepidermal Water Loss (TEWL)

(Figure3)

Change Rate of TEWL (%)



(Figure4)

Figures 3&4: Changes in TEWL after 28 days of using a sample containing 2% ZLEY®FUPOLURRY

*数据来源：ZLEY LAB

IMPROVES SKIN ELASTICITY AND FIRMNESS, ENHANCES DERMAL THICKNESS

A clinical efficacy study showed that after 28 days of using a cream containing 2% ZLEY®FUPOLURRY on 30 subjects, skin elasticity (R2) increased significantly by 24.82% (P<0.01). This indicates that at 2% concentration, ZLEY®FUPOLURRY can mitigate UV-induced skin aging and improve the elasticity and firmness of photo-damaged skin.

Figure 1: Average Skin Elasticity (R2)

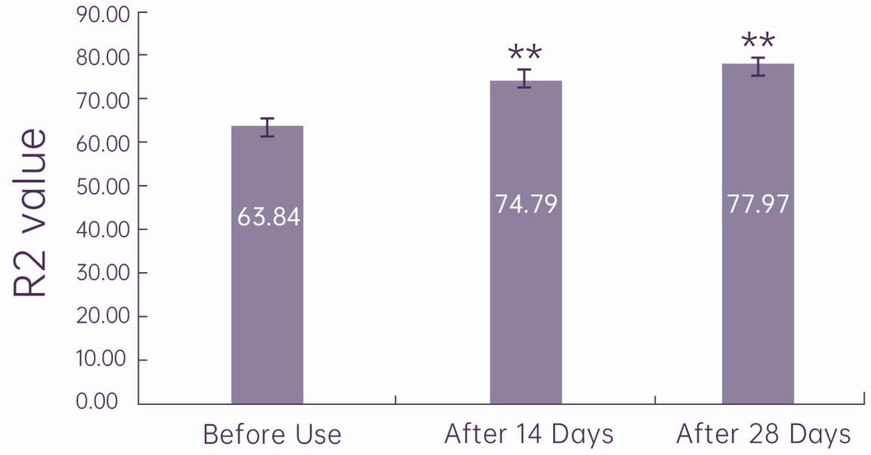


Figure 2: Change Rate of Skin Elasticity (R2, %)

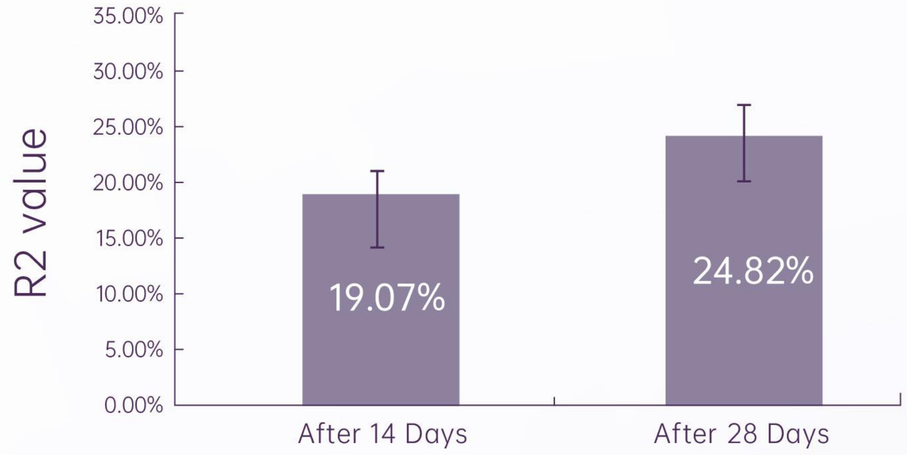


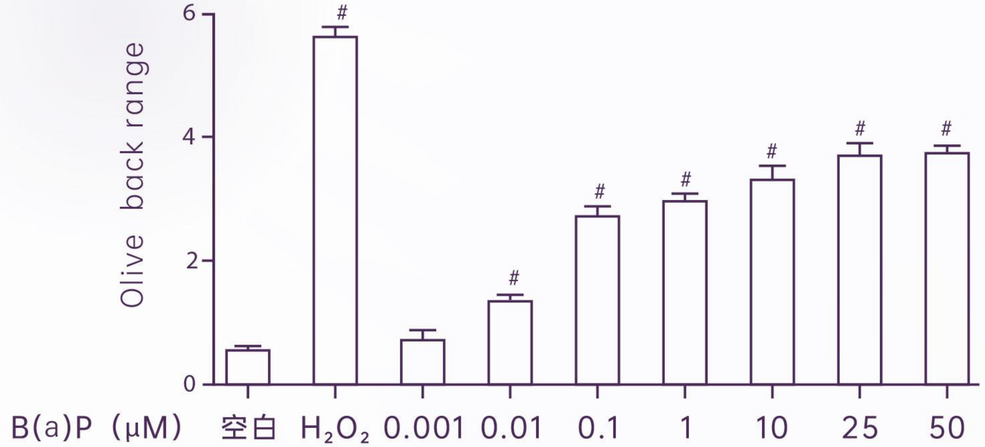
Figure: Changes in Skin Elasticity after 28 Days of Using a Cream Containing 2% ZLEY®FUPOLURRY

*数据来源：ZLEY LAB

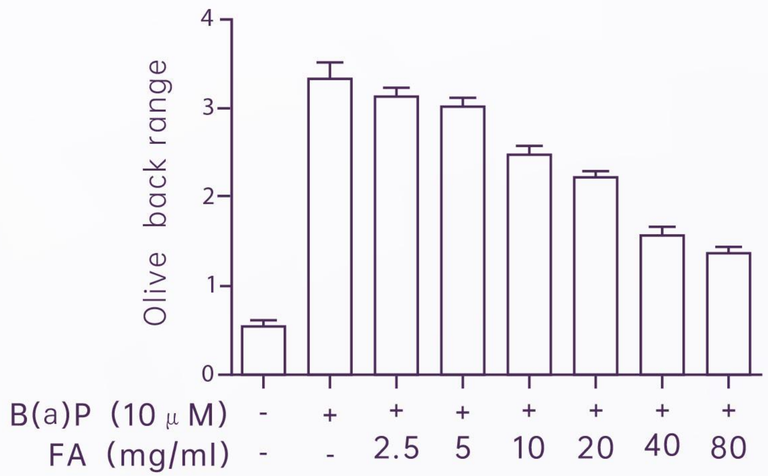
「ANTI-POLLUTION, BLOCK THE INVASION OF EXOGENOUS POLLUTANTS」

Reduce the genotoxic effect of pollutants on skin cells

- Figure 1: Assessment of DNA damage by B (a) P exposure using comet assay.
- Figure 2: DNA breaks are significantly reduced, that is, FA (ferulic acid) can protect against B (A) P-induced BV 2 and DNA damage in cells。



(Figure1)



(Figure2)

B(a)P：苯并[a]芘，属于五环多环芳香烃类 （PAH），是一种强致癌污染物，主要存在于各种汽车尾气、香烟烟雾等。
*Ref：Ferulic acid attenuates oxidative DNA damage and inflammatory responses in microglia induced by benzo(a)pyrene. Int Immunopharmacol. 2019 Dec;77:105980.

「ZLEY®FUPOLURRY」

INCI	Ferulic Acid, Diethylhexyl Syringylidenemalonate, Hydrogenated Lecithin, Caprylic/Capric Triglyceride, Cera Alba
CAS NO	1135-24-6,444811-29-4,92128-87-5,65381-09-1,8012-89-3
APPERANCE	White paste
RECOMMANDED DOSAGE	0.2~2%
SOLUBILITY	Oil-soluble and not water-soluble
FOEMULA OPERATION	The oil phase was added directly and homogenized after dissolution at high temperature
ATTENTION	Avoid high temperatures too long
APPLICATION	Emulsification system, pure oil system and other skin care dosage forms
EFFICACY POSITIONING	Anti-oxygen, anti-photoaging, anti-inflammatory, anti-pollution, anti-saccharification, all-round precision fight against the skin damage of endogenous and exogenous skin exposure group
PRODUCT RESEARCH AND DEVELOPMENT	① Skin exposure group and biomimetic sebum technology, two-way drive to maintain healthy skin ② Protect the skin from the "city pollution", for the pressure skin " detoxification"

AGE-DEFYING BARRIER CREAM

PHASE	COMPONENTS	INCI	DOSAGE/%	SUPPLIERS
A	Deionized water	Water	To 100	—
	Glycerin	Glycerin	5.00	—
	1,3-Butanediol	Butylene Glycol	3.00	—
	ZLEY®BIOCARE-CPH	Chlorphenesin	0.15	ZLEY
	QM	PVM/MA Decadiene Crosspolymer	0.80	—
	N-200T	Xanthan Gum	0.30	—
B	ZLEY®ARG	Arginine	0.80	—
	Deionized water	Water	5.00	—
C	72	Steareth-2	0.80	—
	721	Steareth-21	1.20	—
	1618S	Cetearyl Alcohol	1.50	—
	ZLEY®DMI	Dimethyl Isosorbide	1.00	ZLEY
D	ZLEY®FUPOLURRY	Ferulic Acid,Diethylhexyl Syringylidenemalonate,Hydrogenated Lecithin Caprylic/Capric Triglyceride,Cera Alba	2.00	ZLEY
	GTCC	Caprylic/Capric Triglyceride	3.00	—
E	S-400	Polyacrylate-13, Polyisobutene, Polysorbate 20	0.50	—
	ZLEY®BIOCARE-ZHD	1,2-Hexanediol	0.60	ZLEY

「APPEARANCE」

White cream

「PH (10% SOL.)」

5.04

「PROCESS PARAMETERS」

1.Pre-treatment:
Mix Phase B thoroughly and set aside for later use.

2.Phase A Preparation:
Mix Phase A ingredients, stir and heat to 80°C, then homogenize quickly for 5 minutes until uniform. Add Phase B, maintain temperature for 20 minutes, and stir thoroughly.

3.Phase C Preparation:
Mix Phase C ingredients, heat to 75–80°C, and stir slowly until uniform.

4.Phase A & B Combination:
Add Phase B into Phase A at 75–80°C, homogenize for 3–5 minutes. Quickly add Phase D, then perform high-speed homogenization for 3–5 minutes, followed by stirring for 15–30 minutes until uniform.

5.Phase E Addition:
At 50°C, add Phase E ingredients sequentially, stirring thoroughly after each addition.

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[INNOVATIVE ELEMENTS TO AMELIORATE LIFE]

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