

The background is a deep red with several concentric circles of varying shades. A prominent gold-colored ring is centered around the text. A diagonal line of small, sparkling gold particles runs from the bottom right towards the center.

RxC

RED EXO COLLA

EXOSOME (RED GINSENG, CICA, CAMELLIA) + PDRN + COLLAGEN

RxC

RED EXO COLLA

EXOSOME (RED GINSENG, CICA, CAMELLIA) + PDRN + COLLAGEN





PRODUCT NAME | RED EXO COLLA

EXOSOME (Red Ginseng, Cica, Camellia, Carrot) + PDRN + Collagen + Peptides

EXOSOME (Red Ginseng, Cica, Camellia, Carrot)

- Panax Ginseng Callus Extracellular Vesicles
- Centella Asiatica Callus Extracellular Vesicles
- Camellia Japonica Callus Extracellular Vesicles
- Daucus Carota Sativa Callus Culture Extract

PDRN + PN

- Made by a French manufacturer derived from wild Alaskan salmon.
- Authorized by European Health Authorities (USA and Canada).

Collagen & Peptides

- Atelocollagen, Hydrolyzed Collagen
- 8 Peptides

PACKAGE

No. 1 EXOSOME, Freeze-Dried Ampoule : 100mg x 5vials

No. 2 PDRN + Collagen + Peptides, Solvent Ampoule : 6ml x 5vials



RED EXO COLLA

4 High-Purity Exosome (Derived from Plants)

- Red Panax Ginseng Callus Extracellular Vesicles
- Centella Asiatica Callus Extracellular Vesicles
- Camellia Japonica Callus Extracellular Vesicles
- Daucus Carota Sativa Callus Culture Extract

H - PDRN & PN

- Made by French From Wild Alaskan Salmon
- High-Purity PDRN 300,000 ppm
- High-Purity PN 10,000 ppm

Growth Factors

- Atelocollagen
- Hydrolyzed Collagen
- 8 Amino Acid Peptides
- Glutathione



RxC

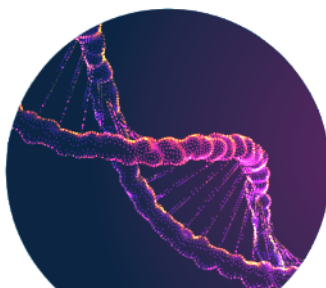
RED EXO COLLA

EXOSOME

RED EXO COLLA is a product that extracts exosomes, the core active ingredient, from skin-beneficial four plant stem cell cultures and uses technology to increase the absorption of various cell active ingredients into the skin through exosome nano-particles.

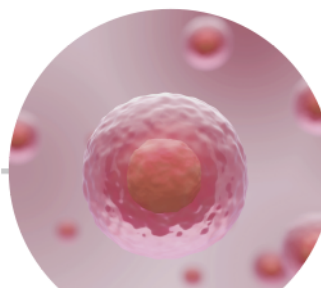
RED EXO COLLA

EXOSOME (RED GINSENG, CICA, CAMELLIA) + PDRN + COLLAGEN



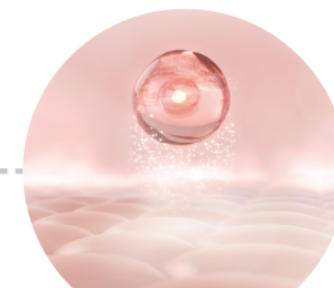
4 Plant Stem Cell

Red Panax Ginseng Callus Extracellular Vesicles
Centella Asiatica Callus Extracellular Vesicles
Camellia Japonica Callus Extracellular Vesicles
Daucus Carota Sativa Callus Culture Extract



EXOSOME

Extraction of 0.5% core component
of stem cell culture extract
High absorption rate as it is 184~462 times
smaller than the size of skin pores



Skin/Tissue Regeneration

Contains various active ingredients
such as protein DNA, mRNA, and lipids
that help with skin cell regeneration
and activation.

»»»»» EXOSOME_Red Ginseng

RED EXO COLLA extracts only highly purified exosomes, which are key active ingredients, from 4 plant stem cell cultures beneficial to skin health. The main ingredient, Red Ginseng exosomes, have special effects that are different from other exosomes.



Delivery of physiologically active ingredients including ginsenoside

Red Ginseng exosomes contain ginsenosides (Rg1, Rb1, Rg3, etc.), which are not found in ordinary exosomes. Beyond the function of the exosome intercellular carrier, direct physiological effects such as antioxidant, anti-inflammatory, whitening, and anti-aging can be expected. Red ginseng exosomes act as ginsenoside + exosome synergy.

Regulating skin regeneration and anti-aging gene expression

According to the results of the study, red ginseng exosomes activate the following genes in human skin cells: Collagen production genes (Col1A1, Col3A1), Antioxidant Genes (SOD1, GPX1), Anti-aging transcription (FoxO3a, etc.) This means that it is more effective in promoting cell viability and resilience than regular plant exosomes.

Ability to control immunity and suppress inflammation

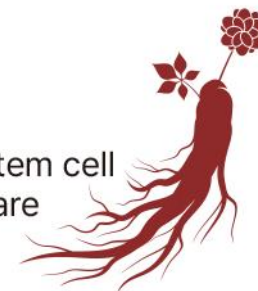
Red ginseng's unique immune control characteristics are maintained in the form of exosomes, Inflammatory cytokines such as TNF- α , IL-6, and IL-1 β have been identified.

Improve stability as a drug carrier

Because exosomes themselves are nanoparticles, they have excellent skin penetration and can deliver ginsenosides deep into the skin. Red ginseng exosomes are non-animal and plant-derived and are also stable for sensitive skin.

EXOSOME_Red Ginseng

RED EXO COLLA extracts only highly purified exosomes, which are key active ingredients, from 4 plant stem cell cultures beneficial to skin health. The main ingredient, Red Ginseng exosomes, have special effects that are different from other exosomes.



Papers related to Red Ginseng

NIH National Library of Medicine National Center for Biotechnology Information > Front Pharmacol. 2021 Oct 4;12:716248. doi: 10.3389/fphar.2021.716248. eCollection 2021. Anti-Photoaging and Anti-Inflammatory Effects of Ginsenoside Rk3 During Exposure to UV Irradiation Shichao Wan ^{1 2 3}, Yannan Liu ^{1 2 3}, Jingjing Shi ^{1 2 3}, Daidi Fan ^{1 2 3}, Binglin Li ⁴ Affiliations + expand PMID: 34671254 PMCID: PMC8521102 DOI: 10.3389/fphar.2021.716248	NIH National Library of Medicine National Center for Biotechnology Information > J Ginseng Res. 2018 Oct 6;44(1):115-122. doi: 10.1016/j.jgr.2018.09.005 Effect of red ginseng NaturalGEL on skin aging Ye Hyang Kim ¹, Hye Rim Park ¹, So Yoon Cha ¹, So Hun Lee ¹, Jung Wung Jo ¹, Jung Nam Go ¹, Kang Hyuk Lee ¹, Su Yeon Lee ¹, Song Seok Shin ^{1,*} Author information Article notes Copyright and License information PMCID: PMC7033332 PMID: 32148394	NIH National Library of Medicine National Center for Biotechnology Information > J Ginseng Res. 2020 Sep;44(5):738-746. doi: 10.1016/j.jgr.2019.08.004. Epub 2019 Aug 21. Effects of red ginseng on the elastic properties of human skin Moon Young Park ¹, Se Jik Han ^{1 2}, Donggerami Moon ¹, Sangwoo Kwon ¹, Jin-Woo Lee ³, Kyung Sook Kim ¹ Affiliations + expand PMID: 32913403 PMCID: PMC7471210 DOI: 10.1016/j.jgr.2019.08.004
pharmaceutics MDPI Article Dermal Delivery of Korean Red Ginseng Extract: Impact on Storage Stability of Different Carrier Systems and Evaluation of Rg1 and Rb1 Skin Permeation Ex Vivo Victoria Klang ^{1,*}, Eva-Maria Schweiger ¹, Simone Strohmaier ¹, Verena Ina Walter ¹, Zorana Dekic ¹ and Ammar Tahir ² ¹ Department of Pharmaceutical Sciences, Division of Pharmaceutical Technology and Biopharmaceutics, University of Vienna, Josef-Holadeck-Platz 2, 1090 Vienna, Austria ² Department of Pharmaceutical Sciences, Division of Pharmacognosy, University of Vienna, Josef-Holadeck-Platz 2, 1090 Vienna, Austria * Correspondence: victoria.klang@univie.ac.at; Tel.: +43-1427755403	Journal of Ginseng Research 48 (2024) 525-534 Contents lists available at ScienceDirect Journal of Ginseng Research journal homepage: www.sciencedirect.com/journal/journal-of-ginseng-research Review Article Ginseng and ginseng byproducts for skincare and skin health Ji-Hun Kim ^a, Rami Lee ^a, Sung-Hee Hwang ^b, Sun-Hye Choi ^c, Jong-Hoon Kim ^d, Ik-Hyun Cho ^e, Jeong Ik Lee ^e, Seung-Yeol Nah ^{f,*} ^a Ginseng Research Laboratory and Department of Physiology, College of Veterinary Medicine, Konkuk University, Seoul, Republic of Korea ^b Department of Pharmaceutical Engineering, College of Health Sciences, Sangji University, Wonju, Republic of Korea ^c Department of Animal Health, College of Health and Medical Sciences, Osn University, Osn, Republic of Korea ^d College of Veterinary Medicine, Bioeconomy Research Institute, Jozeok National University, Busan City, Jollabuk Do, Republic of Korea ^e Department of Convergent Medical Sciences, College of Korean Medicine, Kyung Hee University, Seoul, Republic of Korea ^f Department of Veterinary Clinician and Therapeutics, College of Veterinary Medicine, Konkuk University, Seoul, Republic of Korea	Journal of Ginseng Research 48 (2024) 211-219 Contents lists available at ScienceDirect Journal of Ginseng Research journal homepage: www.sciencedirect.com/journal/journal-of-ginseng-research Research Article Ginseng root-derived exosome-like nanoparticles protect skin from UV irradiation and oxidative stress by suppressing activator protein-1 signaling and limiting the generation of reactive oxygen species Wooram Choi ^{a,1}, Jeong Hun Cho ^{a,1}, Sang Hee Park ^{a,1}, Dong Seon Kim ^a, Hwa Pyoung Lee ^a, Donghyun Kim ^b, Hyun Soo Kim ^b, Ji Hye Kim ^{c,1}, Jae Youl Cho ^{a,1} ^a Department of Integrative Biotechnology, SanggyeWhan University, Suwon, Republic of Korea ^b Research and Innovation Center, JAMHSA/KAOTIC, Yangju, Republic of Korea ^c Department of Biochemistry, SanggyeWhan University, Suwon, Republic of Korea

»»»» 4 Exosome + PDRN + Collagen & Peptides

4 Exosome

Technology extracts exosomes, a key active ingredient, from 4 plant stem cell (callus) culture medium, from skin improvement and skin cell growth and exosome nanoparticles increase the absorption rate of the active ingredient. High-purity exosomes are directly isolated and purified from 4 plant stem cell (callus) culture.



Red Ginseng



Centella Asiatica



Camellia Japonica



Carrot

RxC

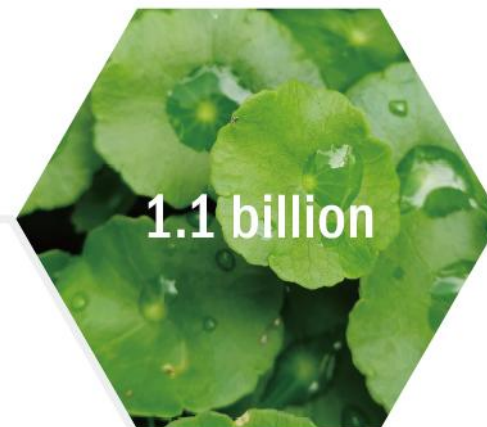
RED EXO COLLA

4 Exosome + PDRN + Collagen & Peptides

4 Exosomes Particles

The ultra-nano particles contain of about 14 billion/ml of purified high-purity exosomes alone.

- Red Ginseng : 11 billion
- CICA : 1.1 billion
- Carrot : 1.0 billion
- Camellia : 1.0 billion



RED EXO COLLA

4 Exosome + PDRN + Collagen & Peptides

4 Plant-derived Exosomes

Purified high-purity exosomes isolated from only the core active ingredients plant stem cell (callus) culture medium.



Ginsenoside (Saponin) helps regenerate aging skin cells, promotes the synthesis of hyaluronic acid, a natural moisturizing factor in the dermis of the skin, and provides skin elasticity. It also inhibits the activity of Tyrosinase, which regulates melanogenesis, preventing excessive pigmentation, which helps maintain bright skin tones.



Phytosterol, Glycoside Tannin ingredient promote skin cell regeneration, antibacterial skin inflammation and wound healing action. Madecassic Acid, Asiaticoside ingredient helps skin collagen synthesis, giving skin elasticity and preventing aging.



Beta-carotene, vitamin C, E and polyphenols have powerful skin antioxidant effects and are effective in promoting skin cell regeneration and repairing damage and inflammation.



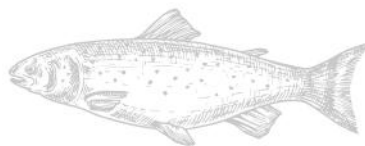
Rich in flavonoid, polyphenol, catechin, methionine, etc. and have excellent antioxidant properties, which help protect the skin from irritation inside and outside the skin. They also have moisturizing effects, inhibiting inflammation, shrinking pores, and inhibiting excessive sebum secretion.

RxC

RED EXO COLLA

4 Exosome + PDRN + Collagen & Peptides

»»»»» PDRN



High-purity PDRN 500,000 ppm

High-purity PN 10,000 ppm

PDRN is made by a French manufacturer derived from wild Alaskan salmon.

PDRN is authorized by European Health Authorities (USA and Canada)

Promotes and increases skin hydration

OH ° free radical scavenger

Reconstruction of damage skin

Anti UV light

Reinforces the antioxidant barrier of the skin



4 Exosome + PDRN + Collagen & Peptides

Collagen & Peptides

EGF, FGF, IGF

Collagen & Elastin regeneration growth factors

Atelocollagen, Hydrolyzed Collagen

Promotes the synthesis of collagen and elastin, Doubles the moisturizing effect compared to hyaluronic acid Provide elasticity to the skin and prevent sagging

Glutathione

Excellent whitening effect due to melanin suppression effect
Helps delay skin aging with powerful antioxidant effect

8 (Amino Acid) Peptides : made from 99% high purity powder raw materials

1. Galloyl Pentapeptide-74(SEATIDE) : Effective for Anti-wrinkle with high collagen mRNA expression
2. Nicotinoyl Tripeptide-1 : Effective for powerful antioxidant, soothing and anti-inflammatory
3. Nonapeptide-1 : Helps improve bright clean skin tone by reducing multi-pigmentation
4. Acetyl Hexapeptide-8 : Effective for Anti-wrinkle by inhibiting skin muscle contraction
5. Palmitoyl Pentapeptide-4 : Increasing collagen and preventing elastin decomposition
6. Palmitoyl Tetrapeptide-7 : Increasing collagen and preventing elastin decomposition
7. Biotinoyl Tripeptide-1 : Preventing melanin production in the skin for whitening effect
8. Glycine Soja (Soybean) Peptide : Promotes collagen synthesis and adds elasticity to the dermis



Increased skin elasticity



Collagen & Elastin regeneration



Whitening effect



Anti-Wrinkle



Improving skin moisturization



Bright Skin tone



Reducing the skin pores



Preventing the skin pores

4 Exosome + PDRN + Collagen & Peptides

Clinic Report on Efficacy

- Client : HUCOSMEDIC
 - Test Period : February 10, 2025 – March 13, 2025
- Institute : HLK Clinical Trial Center Co., Ltd.
 - Subject Selection : Evaluate the skin improvement efficacy and safety of the test material.



HLKT-CST-25107
Test Report version: 0.0

REPORT SUMMARY

Title	A Clinical Study on the Anti-Aging Efficacy of RED EXO COLLA in Human Skin
Sponsor	Hucosmedic Co., Ltd.
Study Organization	HLK Clinical Trial Center Co., Ltd.
Study Period	February 10, 2025 – March 13, 2025
Study Coordinator	Researcher Son Nu Ri
Objective	This study was conducted to evaluate the skin improvement efficacy and safety of the test material.
Test Material	RED EXO COLLA
Subjects	22 subjects selected according to inclusion/exclusion criteria (45.55±7.04 years)
Methods	This study was conducted to evaluate the anti-aging efficacy of the test material on human skin. The test material was applied to the facial area of the test subjects for 4 weeks. Instrumental measurements, survey assessments, and adverse reaction assessments were performed baseline, immediately after single use, and at 4 weeks after use.
Results	1. Evaluation of the 5 Types of Wrinkles Compared to baseline, the analysis values for wrinkles on the forehead, under the eyes, crow's feet, nasolabial folds, and around the mouth showed significant improvement at 4 weeks after use ($p<0.05$). 2. Evaluation of Skin Elasticity Compared to baseline, the analysis values for skin elasticity on the cheek area showed significant improvement at 4 weeks after use ($p<0.05$). 3. Evaluation of Facial Lifting Compared to baseline, the analysis values for sagging angles on the cheek area showed significant improvement at 4 weeks after use ($p<0.05$).

Results	4. Evaluation of Hyperpigmentation Areas (Melasma, Blemishes, etc.) Compared to baseline, the analysis values for hyperpigmentation areas showed significant improvement at 4 weeks after use ($p<0.05$). 5. Evaluation of Skin Brightness and Tone Compared to baseline, the measurement values for brightness (L^* value) and tone (ITA°) on the cheek area showed significant improvement at 4 weeks after use ($p<0.05$). 6. Evaluation of Skin Moisture Compared to baseline, the measurement values for skin moisture on the forearm immediately after single use and on the cheek area at 4 weeks after use showed significant improvement ($p<0.05$). 7. Evaluation of Skin Adverse Reactions During the study period, no skin adverse reactions were observed in any of the subjects.
Conclusion	The 'RED EXO COLLA', commissioned by Hucosmedic Co., Ltd., is considered to help improve anti-aging efficacy by showing improvement in the 5 types of wrinkles, skin elasticity, facial lifting, hyperpigmentation areas (Melasma, Blemishes, etc.), skin brightness and tone, and skin moisture of use.



4 Exosome + PDRN + Collagen & Peptides

Thesis Papers on Clinical Trials

Journal of Ginseng Research 48 (2024) 525–534



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journal homepage: www.sciencedirect.com/journal/journal-of-ginseng-research



Review Article

Ginseng and ginseng byproducts for skincare and skin health

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ARTICLE INFO

Keywords:

Ginseng
Ginsenosides
Gintonin
Lysophosphatidic acid
Cosmetic ingredients
Cosmetics

ABSTRACT

Ginseng is a traditional herbal medicine with a long history of use for the prevention and/or treatment of various diseases. Ginseng is used worldwide as a functional food to maintain human health. In addition, ginseng has been used as a raw ingredient in cosmetics with various applications, ranging from skin toning to anti-aging. Some cosmetic products contain ginseng extracts from Korea and other countries, as it is thought that ginseng can also exert beneficial effects on human skin. However, it remains unclear which ginseng component(s) could be the main active compound that directly contributes to skin health and/or prevents skin aging. It is also important to understand the mechanisms by which the ginseng component(s) exert their effects on the skin and skin health.

This review describes recent *in vitro* and *in vivo* studies involving ginseng extracts, ginseng ingredients, and ginseng byproducts for skincare and skin health and discusses emerging evidence that ginsenosides, gintonin, and ginseng byproducts could be novel candidates for skincare and skin health applications ranging from anti-aging to the treatment of skin diseases such as atopic dermatitis and hypertrophic scars and keloids. The mechanisms underlying the beneficial effects of ginseng components and byproducts on skin health are discussed. In addition, this review shows how ginseng components, such as gintonin, a newly identified ginseng component, might contribute to skin health and skin disease when used as a supplementary ingredient in cosmetics and further proposes a novel combination in cosmetic products containing both ginsenosides and gintonin.

7. Conclusion

Recent *in vitro* and *in vivo* studies, as described above, suggest that ginseng ingredients can be used in functional and medicinal cosmetics because they exhibit anti-skin aging and anti-wrinkle effects, facilitate wound healing and whitening, stimulate hair growth, and even inhibit hypertrophic scars and keloids [28,42–47] (Table 1). Developing target-oriented functional or medical cosmetics with enhanced levels of ginseng ingredients matching those in functional foods containing ginseng may be necessary. However, it might not be easy to enhance ginseng ingredients in cosmetics, as ginseng root itself is an expensive herb, and individual ginsenosides are even more expensive. An alternative for lowering the cost of ginseng ingredients is to utilize ginseng byproducts produced during the cultivation and processing of red ginseng products. This could be a way to upcycle ginseng byproducts and increase their added value [99].

In addition, if different ginseng components or fractions are combined as cosmetic ingredients, they can complement each other, leading to additive or synergistic effects for skincare and skin health. For example, although target membrane receptors for ginsenosides do not exist, they have been proven to exert beneficial effects through non-receptor-mediated mechanisms, such as non-specific antioxidative and anti-inflammatory effects within the skin system [100]. In contrast, ginseng-derived gintonin or KRGm gintonin-containing LPAs have a high affinity for membrane LPA receptor subtypes in skin cells and exert specific cascade effects through these receptors using $[Ca^{2+}]_i$ transients [64]. Thus, by adding both ginsenosides and gintonin, the non-receptor-mediated anti-oxidative stress effects and anti-inflammatory effects, respectively, can be combined in a single cosmetics product, as the effects of gintonin, which are achieved through LPA receptor regulation, distinguish it from those of ginsenosides and ginseng polysaccharides.

In conclusion, ginseng is a traditional herbal medicine used to improve physical and mental health in Asian and Western countries. Recently, ginseng utilization has rapidly expanded into cosmetic fields for skincare and skin health for various purposes, including whitening

4 Exosome + PDRN + Collagen & Peptides

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J Ginseng Res 44 (2020) 115–122



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journal homepage: <http://www.ginsengres.org>



Research Article

Effect of red ginseng NaturalGEL on skin aging

Ye Hyang Kim, Hye Rim Park, So Yoon Cha, So Hun Lee, Jung Wung Jo, Jung Nam Go, Kang Hyuk Lee, Su Yeon Lee, Song Seok Shin*

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Red ginseng NaturalGEL

Skin hydration

ABSTRACT

Background: In aged skin, degradation of collagen fibers, which occupy the majority of the extracellular matrix in the dermis, and changes of aquaporin 3 (AQP3) and skin constituents, such as hyaluronic acid and ceramide, cause wrinkles and decrease skin moisturization to contribute to dryness and lower elasticity skin. Red ginseng (RG) is used as a cosmetic and food material and is known to protect from UVB-induced cell death, increase skin hydration, prevent wrinkles, and have an antioxidative effect. But, in general, RG used as a material is the soluble liquid portion in the solvent, and the part that is not soluble in the solvent is discarded. Thus, we made the whole RG into microgranulation and dispersed in water to produce gel form for using entire RG, and it was named red ginseng NaturalGEL (RG NGEL). **Methods:** RG NGEL was investigated for matrix metalloproteinases inhibitory activity, induction of Type I collagen, AQP3, hyaluronan synthetase 2, serine palmitoyl transferase, ceramide synthase 3, and filaggrin expression and compared with RG water extract. **Results:** RG NGEL reduced the levels of UV-induced matrix metalloproteinases and increased Type I collagen in human fibroblast cells and upregulated AQP3, hyaluronan synthetase 2, serine palmitoyl transferase, ceramide synthase 3, and filaggrin expressions in human keratinocytes compared with RG water extract.

Conclusion: RG NGEL has the potential as an effective reagent for antiaging cosmetics to improve wrinkle formation and skin hydration.

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4. Discussion

Most RGs are extracted or concentrated using a solvent such as water or ethanol and then used as a material for the product [20]. Because RG is only used by dissolving in solvents, a portion that is not soluble in water is abandoned in large quantities, which causes environmental pollution. However, the discarded part is known to have antioxidant and antiwrinkle effects. To utilize the whole RG, we made the entire RG into microgranulation and dispersed in water to make gel form. It has been reported that ginsenosides contained in RG were effective in collagen production, inhibition of MMP-1 activity, protection against UVB-induced cell death, improvement of skin hydration, and antioxidation [15–19]. We focused on the effect of RG NGEL on skin aging in this study by using measurement of wrinkle formation-related factors, Col-I, and MMPs in human fibroblast cells and investigating to maintain skin moisture. UV irradiation increases MMPs, MMP-1, MMP-2, and MMP-9, followed by degradation of collagen [4,23]. RG NGEL increased the mRNA level of Col-I, but not RG WE (Fig. 2), and significantly inhibited UV-induced MMP-1, MMP-2, and MMP-9 expression compared with RG WE (Fig. 3). In addition, RG NGEL suppressed the activity of MMP-2 and MMP-9 compared with UV irradiation (Fig. 4).

In the present study, the active compounds showing the effect of RG NGEL could not be identified. However, we found that RG NGEL showed wrinkle and elasticity improvement and moisturizing effect even without ginsenosides. Therefore, further investigations are required to clarify components structure and active ingredients contained in RG NGEL.

In conclusion, RG NGEL reduced wrinkle formation by increasing Col-I, a main form in human skin and a predominant constituent of ECM proteins, and suppression of MMP-1, MMP-2 and MMP-9 expression to cause collagen or elastin degradation. And, further RG NGEL increased the levels of AQP3 and HAS2 associated with skin hydration. In addition, RG NGEL promoted the expression of SPT, CERS3, and FLC, which are important for skin moisturization, thereby enhancing skin barrier and preventing water loss compared with RG WE. Therefore, we suggest that RG NGEL can be used as a cosmetic reagent to help prevent skin aging effectively.

4 Exosome + PDRN + Collagen & Peptides

Thesis Papers on Clinical Trials

RESEARCH ARTICLE

Kor. J. Aesthet. Cosmetol.,
Vol. 11 No. 5, 877-882, October 2013

홍삼에 함유된 프로토파낙사트리올계 전환사포닌의 피부주름 개선효과

이상명¹, 임영호¹, 김석창¹, 최제환¹, 김진희^{2*}

¹한국인삼공사 중앙연구소, ²대구의대학교 한방피부미용학과

Anti-wrinkle Effects of Converted Protopanaxatriol Prepared from Korean Red Ginseng

Sang Myung Lee¹, Young Ho Im¹, Seok Chang Kim¹, Jae Hwan Choi¹, Jin Hee Kim^{2*}

¹Korea Ginseng Corporation Central Research institute

²Department of Herbal Skin Care, Daegu Haany University

Abstract In order to study about human skin anti-wrinkle effect of red ginseng, red ginseng extracts and the fractions were tested to inhibition effect against MMP-2, -9, and -1 expression in human fibroblast cells by gelatin zymography and RT-PCR methods. The red ginseng samples are red ginseng extract extracted with hot water, crude saponin as butanol soluble fraction, major ginsenosides, protopanaxatrol conversions, protopanaxadiol conversions as the fractions fractionated by C₁₈ reverse phase resin and various proportions of aqueous acetonitrile. We found that propanaxatriol conversions fraction one of the red ginseng samples inhibited in a concentration-dependent manner against MMP-2, and -9 expression levels in human fibroblast cells irradiated by UV light. By HPLC analysis, protopanaxatriol conversions fraction consisted on ginsenosides Rk₃, F₄, Rg₅, and Rh₄. These results suggest that dehydrates of protopanaxatriol ginsenoside from red ginseng have an anti-wrinkle activity through inhibition of MMP-2, and -9 expression in skin.

Keywords: Panax ginseng, Protopanaxatriol, MMPs, Anti-wrinkle



RxC RED EXO COLLA
EXOSOME (RED GINSENG, CICA, CAMELLIA) + PDRN + COLLAGEN

Rate of change by test item



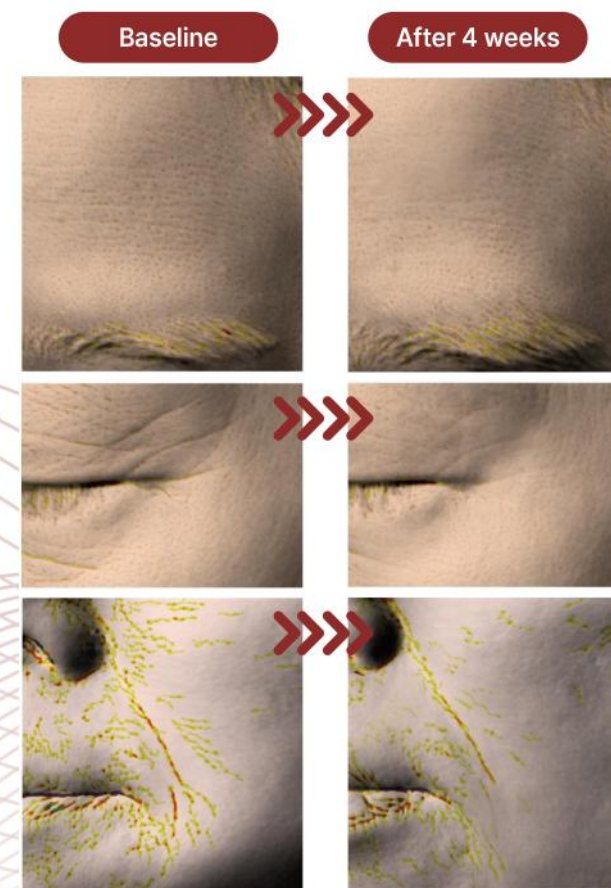
Rate of change by test item

»»»»» Evaluation of the 5 Types of Wrinkles

Compared to baseline, the analysis values for wrinkles on the forehead, under the eyes, crow's feet, nasolabial folds, and around the mouth showed significant decrease at 4 weeks after use

Results of Parameter Analysis for the 5 Types of Wrinkles After Using AMTS

Wrinkle Area	Time Points	Average	SD	p-value	Rate (%)
Forehead	Baseline	6.6383	1.4305	—	—
	After 4 weeks	6.1038	1.4472	0.000*	8.05
Under the Eyes	Baseline	5.6364	0.9116	—	—
	After 4 weeks	5.1024	0.7137	0.000*	9.47
Crow's Feet	Baseline	0.0147	0.0018	—	—
	After 4 weeks	0.0135	0.0013	0.000*	8.16
Nasolabial Folds	Baseline	0.0135	0.0012	—	—
	After 4 weeks	0.0125	0.0012	0.000*	7.41
Around the Mouth	Baseline	0.0140	0.0016	—	—
	After 4 weeks	0.0130	0.0016	0.000*	7.14



Rate of change by test item

»»»»» Evaluation of Facial Lifting

Compared to baseline, the analysis values for sagging angle on the cheek area showed significant decrease at 4 weeks after use

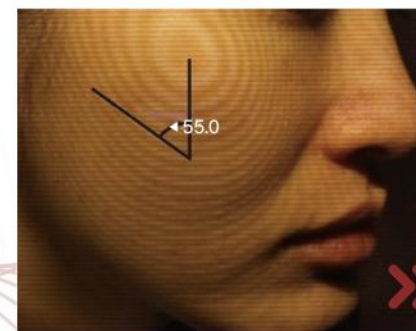
Results of Facial Lifting (Sagging Angle) Analysis After Using AMTS

Time Points	Average	SD	p-value	Rate (%)
Baseline	49.26	6.45	—	—
After 4 weeks	48.16	6.58	0.000*	2.23

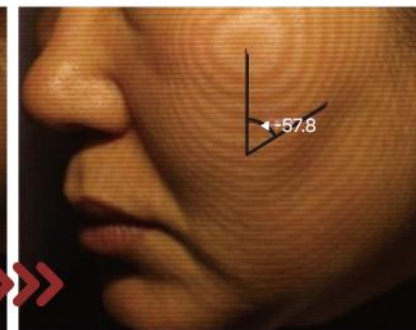
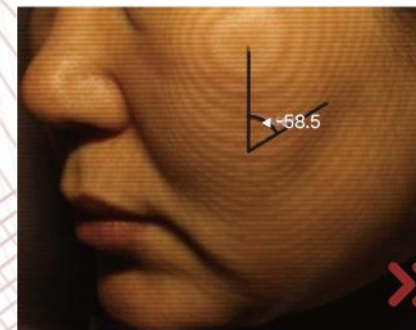
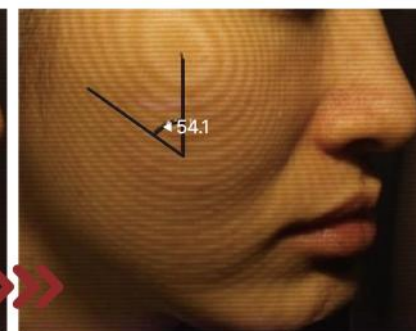


RED EXO COLLA
EXOSOME (RED GINSENG, CICA, CAMELLIA) + PDRN + COLLAGEN

Baseline



After 4 weeks



RxC

RED EXO COLLA

Rate of change by test item

»»»»» Evaluation of Hyperpigmentation Areas (Melasma, Blemishes, etc.)

Compared to baseline, the analysis values for hyperpigmentation areas showed significant decrease at 4 weeks after use

Results of Hyperpigmentation Areas (Melasma, Blemishes, etc.)

Analysis After Using AMTS

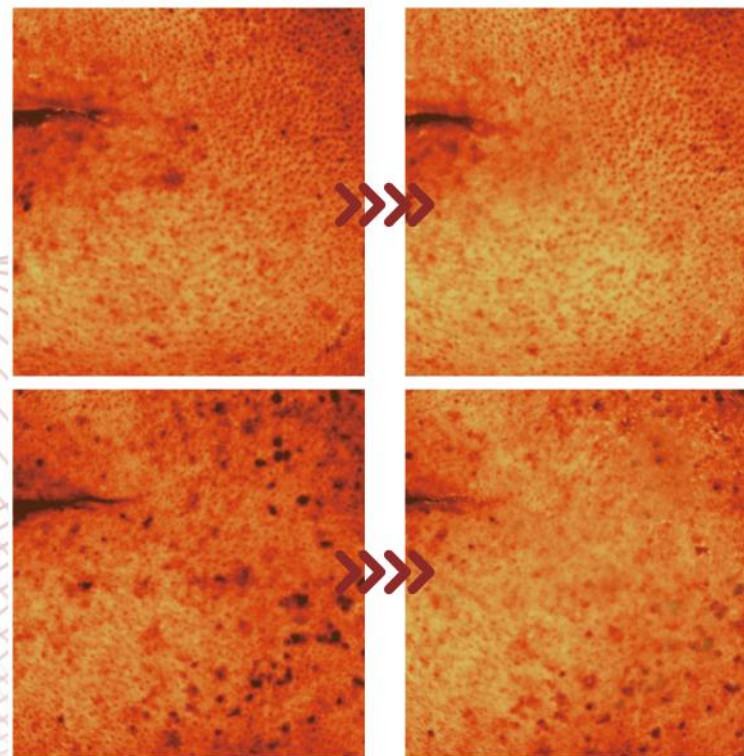
Time Points	Average	SD	p-value	Rate (%)
Baseline	54.84	7.74	—	—
After 4 weeks	53.31	7.69	0.000*	2.79



RED EXO COLLA
EXOSOME (RED GINSENG, CICA, CAMELLIA) + PDRN + COLLAGEN

Baseline

After 4 weeks



RxC

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Rate of change by test item

»»»»» Evaluation of Skin Brightness and Tone

Compared to baseline, the measurement value for brightness (L^* value) and tone (ITA°) on the cheek area showed significant increase at 4 weeks after use

Results of Skin Brightness and Tone Measurements After Using AMTS

Evaluation	Time Points	Average	SD	p-value	Rate (%)
L^* value	Baseline	62.05	2.26	—	—
	After 4 weeks	63.27	1.98	0.000*	1.97
ITA°	Baseline	33.66	9.54	—	—
	After 4 weeks	36.91	5.83	0.000*	9.66



RED EXO COLLA
EXOSOME (RED GINSENG, CICA, CAMELLIA) + PDRN + COLLAGEN

Baseline

After 4 weeks



Rate of change by test item

»»»»» Evaluation of Skin Moisture

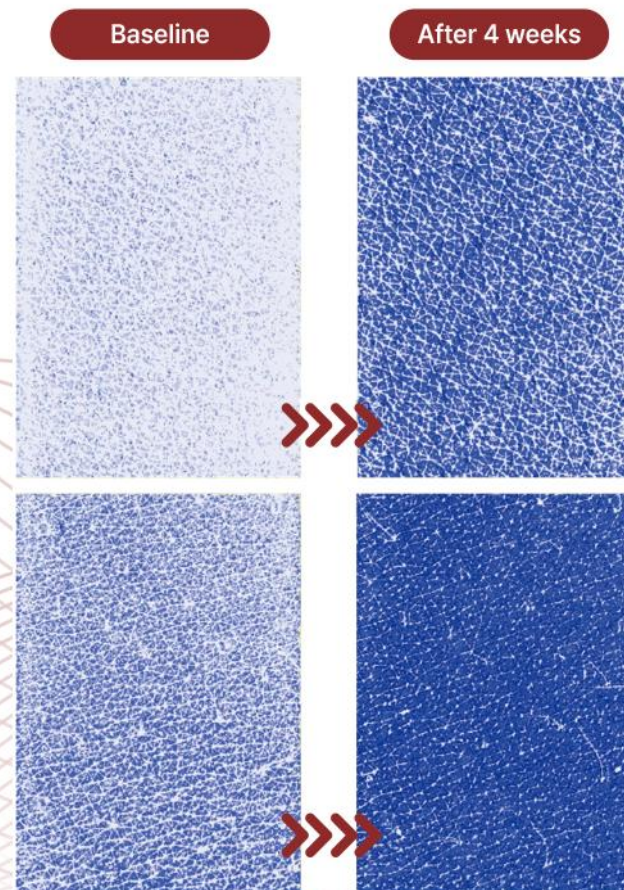
Compared to baseline, the measurement value for moisture on the forearm immediately after single use and on the cheek area at 4 weeks after use showed significant increase

Results of Skin Moisture Measurements After Using AMTS

Measurement	Time Points	Average	SD	p-value	Rate (%)
Forearm	Baseline	36.21	9.83	—	—
	Immediately after single use	112.07	15.08	0.000*	209.50
Cheek	Baseline	49.99	9.54	—	—
	After 4 weeks	63.18	7.60	0.000*	26.39



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Rate of change by test item

Evaluation Improvement Rate



Evaluation of the 5 Types of Wrinkles

8.13%

MAX : 10%



Evaluation of Hyperpigmentation Areas

2.79%

MAX : 5%



Evaluation of Skin Moisture (Forearm)

209.50%

MAX : 300%



Evaluation of Facial Lifting

2.23%

MAX : 5%



Evaluation of Skin Brightness (L* value)

1.97%

MAX : 2%



Evaluation of Skin Moisture (Cheek)

26.39%

MAX : 30%



Evaluation of Skin Tone (ITA°)

9.66%

MAX : 10%

RxC

RED EXO COLLA

How to use

»»»»» How to use Red Exo Colla serum

Only for topical application. Daily use at home.

1. Clean the skin.
2. Open the aluminum cap and remove the rubber stopper from both ampoules.
3. Pour the "PDRN Solvent Ampoule 2" into "EXOSOME Ampoule 1".
4. Shake well to completely dissolve the freeze-dried exosome in Ampoule 1.
5. Apply the serum to the face and neck, allowing it to be absorbed.
6. Once absorbed, apply a moisturizing cream.

* Rubber cones are enclosed in the box.





RED EXO COLLA
EXOSOME (RED GINSENG, CICA, CAMELLIA) + PDRN + COLLAGEN

RxC

RED EXO COLLA

EXOSOME (RED GINSENG, CICA, CAMELLIA) + PDRN + COLLAGEN

