

+ LEXosome™ (Lithospermum Erythrorhizon eXosome)

The glycation reaction is a process in which sugar and proteins interact, leading to the formation of **Advanced Glycation End-products (AGEs)**. AGEs are a major factor that destroys collagen and causes the loss of skin elasticity and moisture. **LEXosome™** are a powerful anti-aging substance that inhibits this glycation process and helps prevent skin aging.

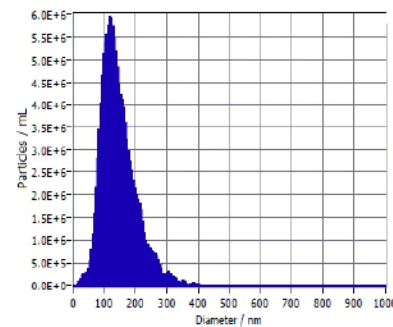
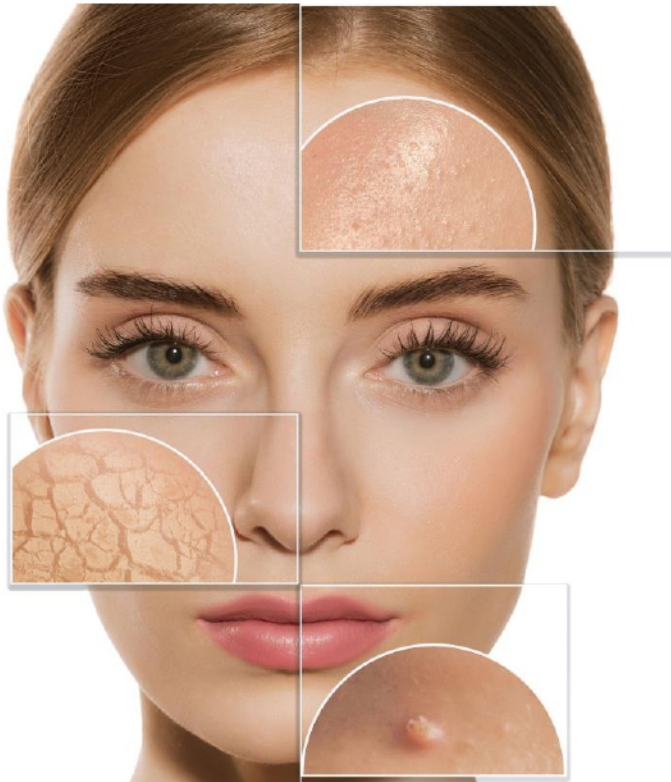
Sagging Skin

Wrinkles

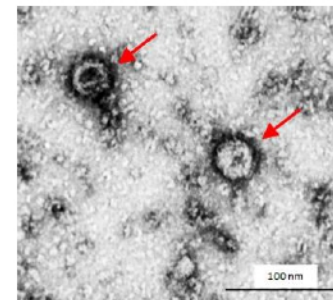
Age Spots

Rough Skin

Dry Skin



[NTA analysis]



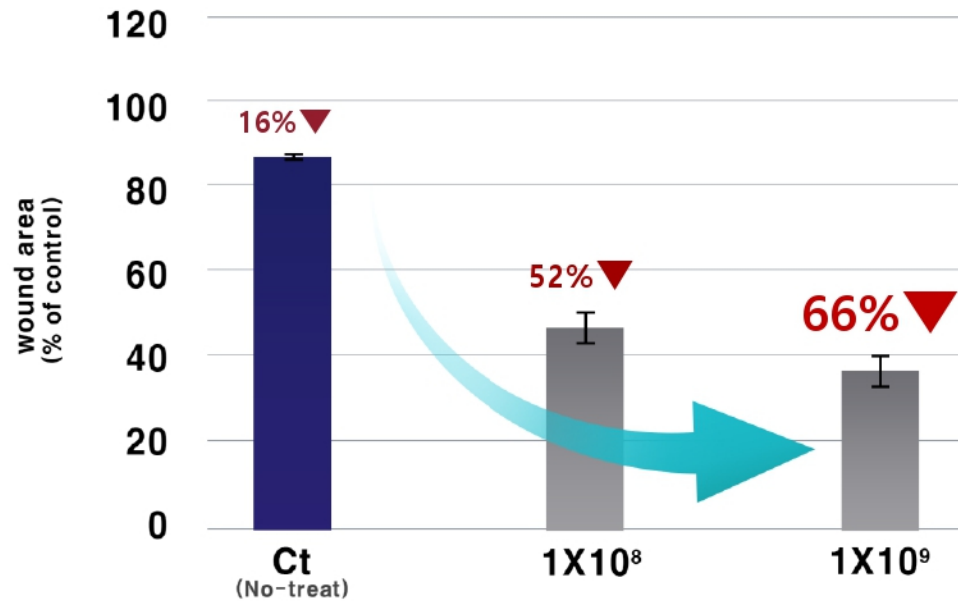
[TEM analysis]



Powerful glycation inhibitor

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Wound healing effect



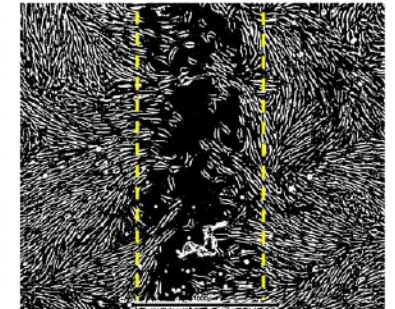
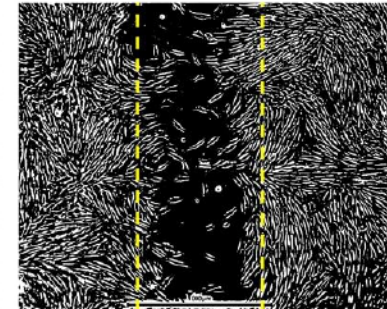
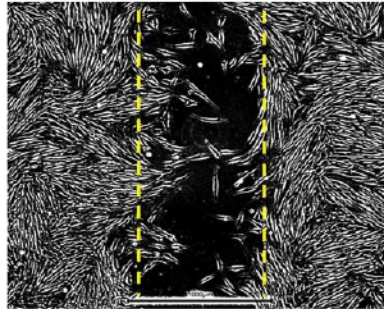
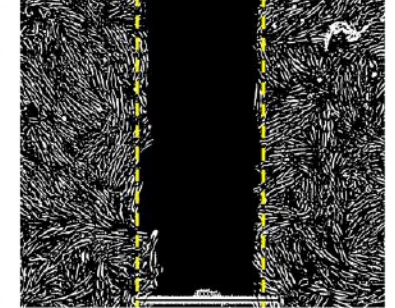
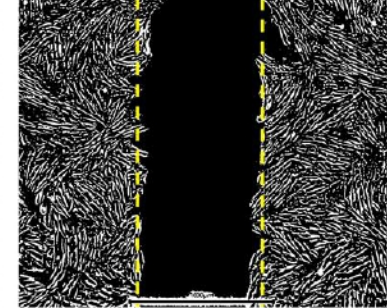
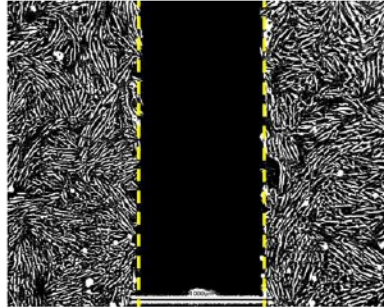
Day 0

Day 1

Control

1X10⁸

1X10⁹



Ref: Sphebio R&D

* Fibroblasts are cells that are predominantly distributed in the upper part of the dermis and are responsible for synthesizing extracellular matrix and collagen.

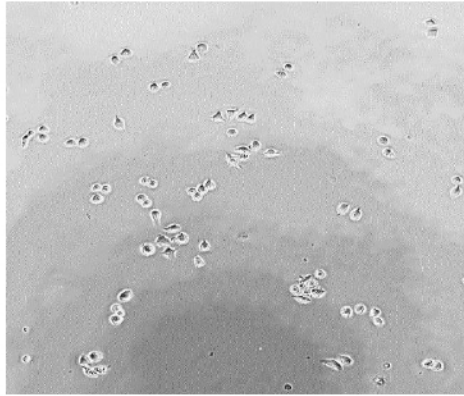
- At Day 1 of wound treatment, the wound recovery rates were as follows: untreated control (0) was 12.1%, exosomes at 1x10⁹ particles/ml were 68.8%.
- Wound healing in fibroblasts improved by 232% with the application of exosomes.
- Lithospermum Erythrorhizon* Exosomes have a beneficial effect on wound recovery.

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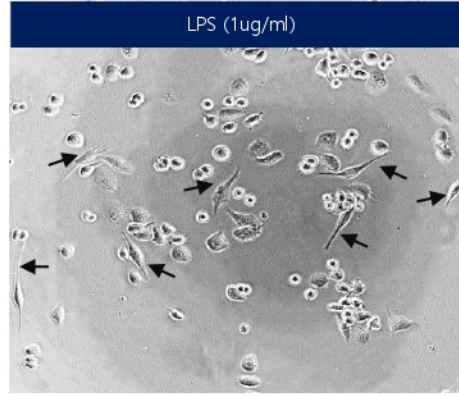
Anti-inflammatory effect



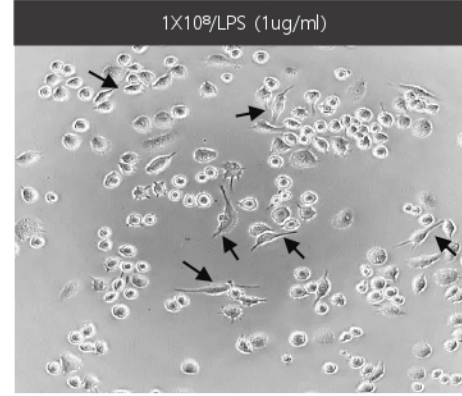
Control



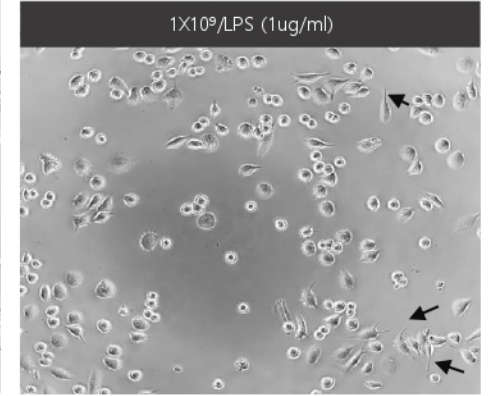
LPS (1ug/ml)



1X10⁸/LPS (1ug/ml)

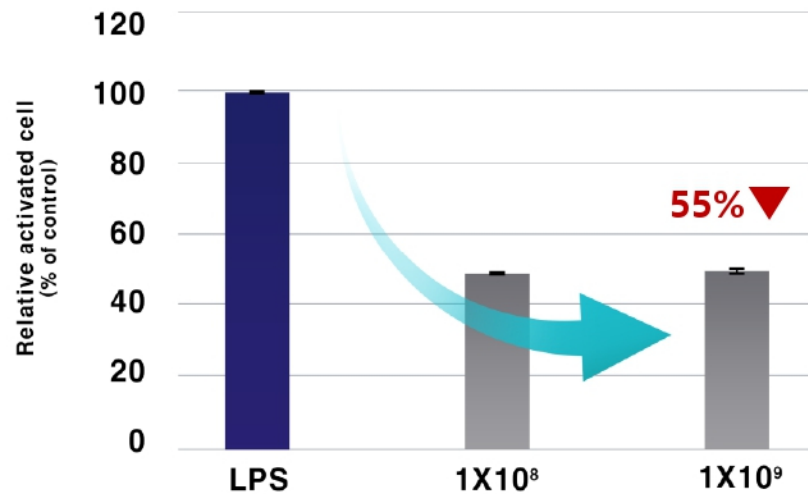


1X10⁹/LPS (1ug/ml)



Ref. Sphebio R&D

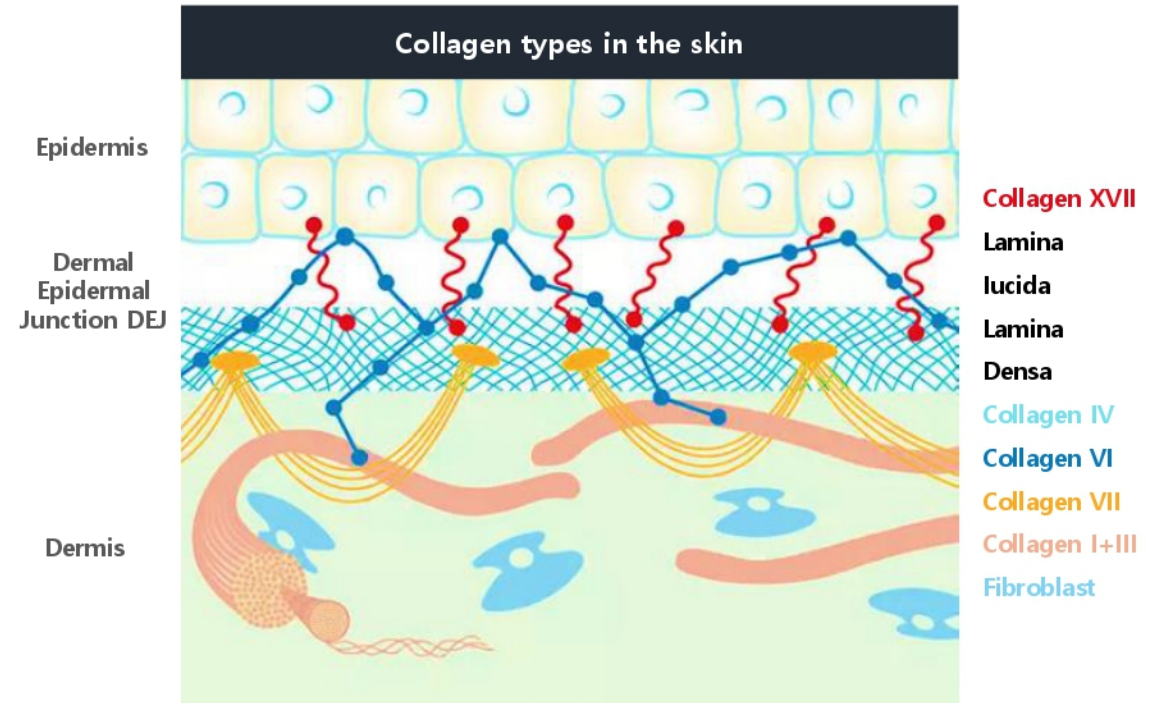
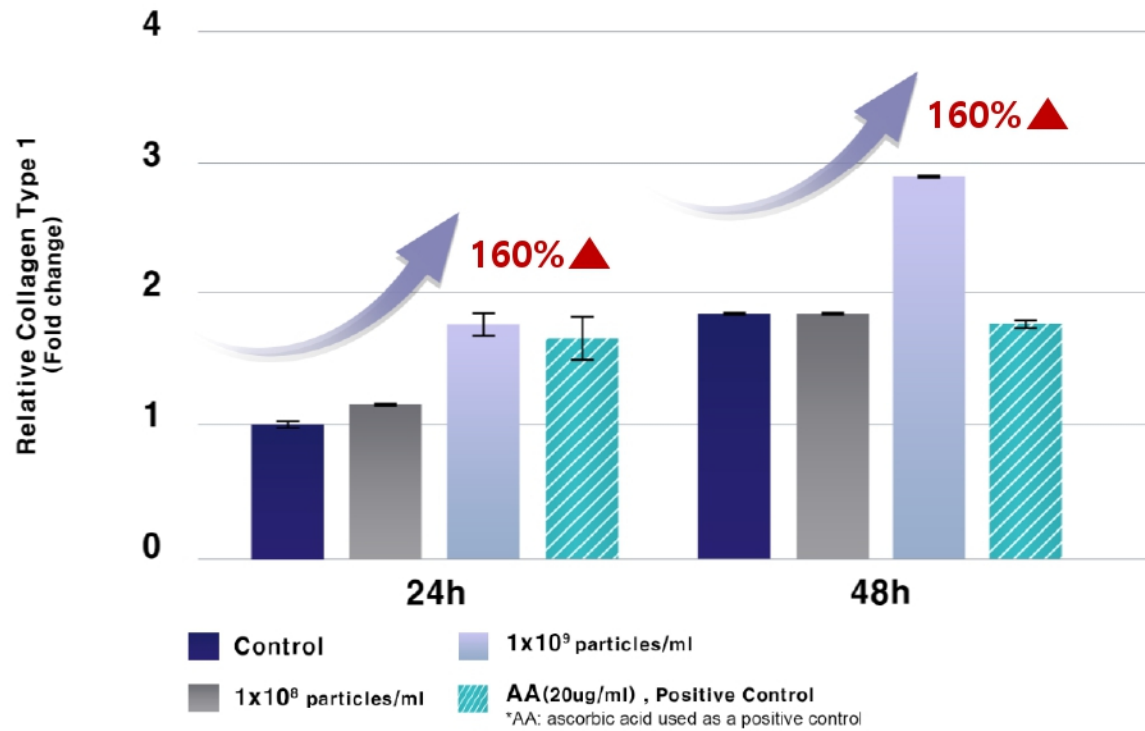
*LPS: Lipopolysaccharide (LPS) is the major component of the outer membrane of Gram-negative bacteria and induce of inflammatory.



- Macrophages, when exposed to the inflammatory substance LPS, transform into a dendritic shape with extended branches.
- *Lithospermum Erythrorhizon* Exosomes hinder the transformation of macrophages into a dendritic shape induced by LPS, thereby alleviating the inflammatory response.
- Cosmetics incorporating exosomes can be expected to alleviate inflammation induced by external stimuli and microorganisms.

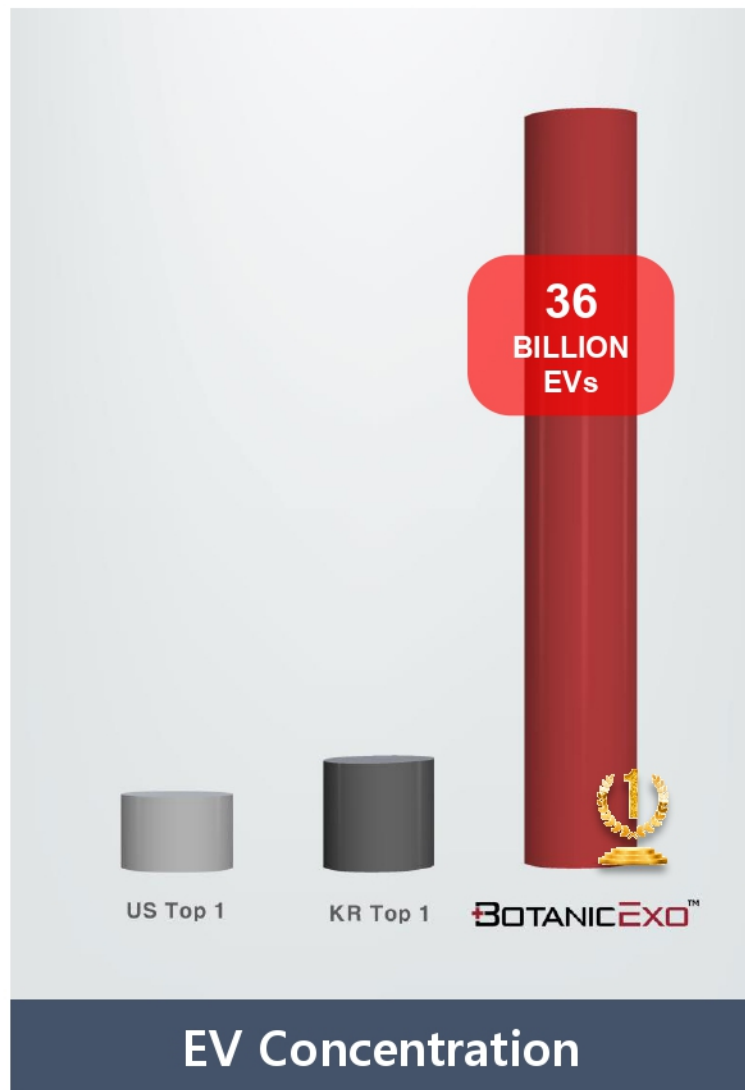
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Collagen synthesis



- *Lithospermum Erythrorhizon* Exosomes Promotes the production of collagen type I, which acts as a crosslink in the dermal layer

+ Why + BOTANIC^{EXO}™



OVERWHELMING QUANTITY ADVANTAGE & QUALITATIVE SUPERIORITY

- **BotanicEXO™** is the culmination of many years of research to create the ideal combination of ingredients designed for one purpose; helping you maintain glowing, younger-looking skin.
- By taking the strength of amino acids known as the building blocks of life, hyaluronic acid's hydration capabilities, and the power of Shikonin, and combining them with the cell signaling power of Exosomes, Sphebio has created the **"Gold Standard"**

Hypopigmentation

- Inhibit melanin synthesis
- Inhibit tyrosinase activity in B16 melanoma cells

Anti-oxidation

- Contain diverse antioxidant proteins
- Increase cell survival against oxidative stress
- Induce the activities of antioxidants in HDFs

Anti-wrinkle

- Increase proliferation of HDFs
- Increase collagen synthesis
- Increase dermal thickness

Wound healing

- Increase the migration of dermal fibroblasts
- Activate keratinocytes to accelerate wound healing

Hair Restoration

Whitening

Anti-Inflammatory

Skin Regeneration

Maintain Elasticity