

EXOCEAN



EXOCEAN

*“Awaken your skin’s potential
with the magic of EXOCEAN”*

EXOCEAN is a potent, nutrient-rich blend of plant exosomes (EV, Extracellular Vesicles) and botulinum polypeptides designed to target and repair damaged skin and hair cells, providing essential nutrients for effective cellular restoration.

EXOCEAN |

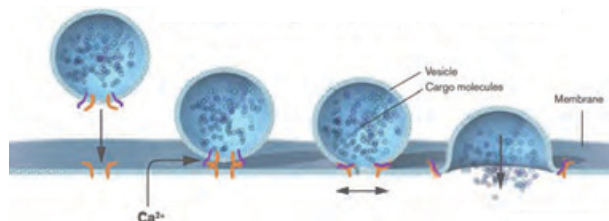


What is Exosome?

A Cell-to-cell Transit System

"Exosomes are extracellular vesicles generated by all cells"

Molecules produced in the cell are known to be packaged into vesicles, which are referred to as extracellular vesicles (EVs) or exosomes. Exosomes mediate both short- and long-distance intercellular communication in health and disease, influencing various aspects of cell biology. They contain the core capabilities of stem cells and essential regenerative materials that transmit signals between cells.

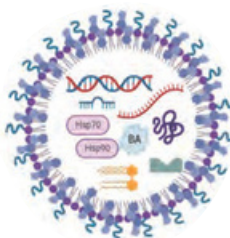
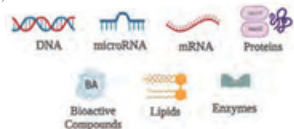


The Plant Exosome

Ethical, Vegan Material that Delivers Great Results

Plant exosomes have the potential to deliver nano-bioactive compounds to the human body, thereby providing various anti-inflammatory, antioxidant, and antitumor benefits.

Plant Exosome's Nanoparticles



A Plant Exosome




Review
Plant-Derived Exosome-like Nanoparticles for Biomedical Applications and Regenerative Therapy

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Abstract: Plant-derived exosome-like nanoparticles (PDENs) comprise various bioactive biomolecules. As an alternative cell-free therapeutic approach, they have the potential to deliver nano-bioactive compounds to the human body, and thus lead to various anti-inflammatory, antioxidant, and anti-tumor benefits. Moreover, it is known that Indonesia is one of the herbal centers of the world, with an abundance of unexplored sources of PDENs. This encouraged further research in biomedical science to develop natural richness in plants as a source for human welfare. This study aims to verify the potential of PDENs for biomedical purposes, especially for regenerative therapy applications, by

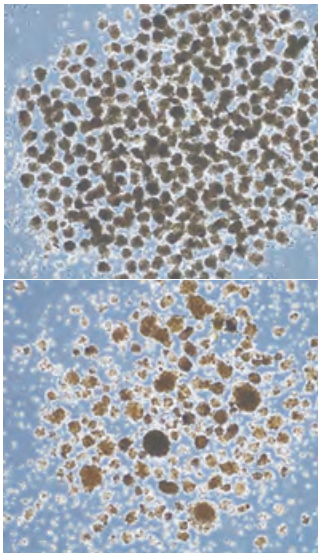
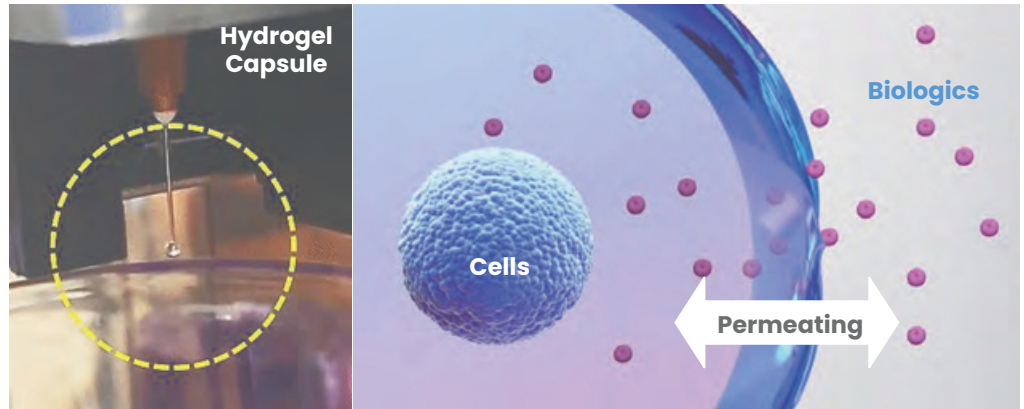
 **Check for updates**

Chaitane Sarasati, A. Syahrudin, M.H. Nuryanti, A. Ana, I.D. Barlian, A. Wijaya, C.H. Ratnadewi, D. Wungu, H.T. Takemori

3D, The Latest Culture Technology

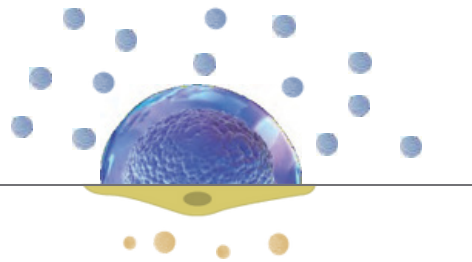
Human-like, Three-dimensional Cellular Environment

The patented **3D Tissue Culture Platform** uses bio-ink to encapsulate tissue cells, creating a human-like, three-dimensional cellular environment. These encapsulated 3D cell models are cultured in bioreactors, where they maintain a **uniform size** without further aggregation. This process **enhances both the quality and productivity of exosomes**.



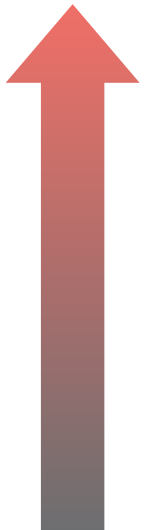
The Latest Culture Technology

3D



2D

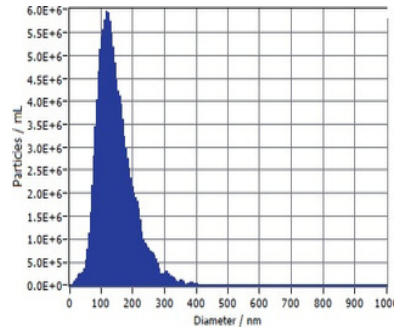
- **4× Higher Uniformity** with Precision
- Better **Quality Control**
- **90× Higher Productivity**



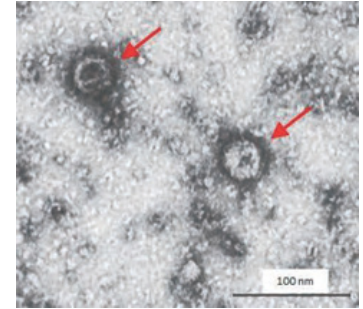
EXOCEAN's Exosome Particles

Remarkable and Powerful Cell Signaling

EXOCEAN's exosome particles (EVs, Extracellular Vesicles) are high-quality exosomes ranging from 30 to 150nm in size. Experience the remarkable and powerful cell signaling power delivered by 38 billion particles per vial.



NTA* analysis
*Nanoparticle Tracking Analysis



TEM** analysis
**Transmission Electron Microscopy

EXOCEAN's Exosome Cell Uptake

Maximizing Cellular Absorption for Enhanced Skin Regeneration

- After staining EXOCEAN's exosomes with a green fluorescent marker, we examined the extent of fibroblast infiltration. EXOCEAN's exosomes were
- found to penetrate fibroblasts, promoting the synthesis of collagen and other factors, enhancing cell activity, and facilitating wound healing.

	Cell membrane(Exosome) fluorescent labeling dye	Fibroblast Cell nucleus staining dye	EXOCEAN's exosome transfer of fibroblast cytoplasm
0 hr			
4 hr			
24 hr			
	PKH67	DAPI	MERGE

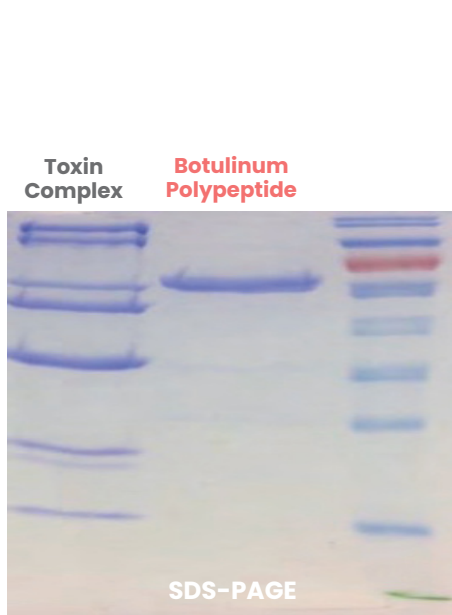


38 Billion Particles

The optimal number found through the test

EXOCEAN = Exosomes + Botulinum Polypeptide

Powerful Skin Texture Improvement



Comparison of protein size and purity between Botulinum Polypeptide and Botulinum Type A toxin using SDS-PAGE.



MTD technology, showing very high cell permeability, reaches the epidermal layer effectively.

*“EXOCEAN’s
High-concentration
botulinum-derivative ingredient
can help improve Skin Texture”*

EXOCEAN Powder
Exosome
Botulinum Polypeptide



EXOCEAN Active Solution
Hyaluronic Acid
Glutathione
Amino Acids
Peptides

Efficacy

Anti
Inflammatory **55%**

Wound
Healing **69%**

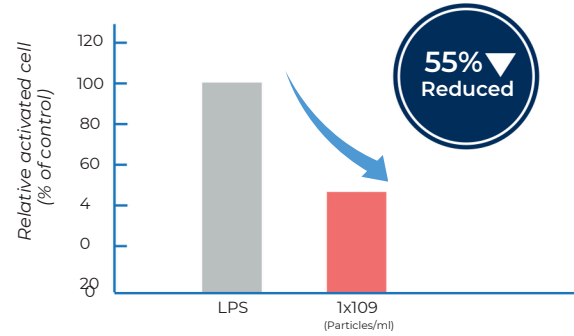
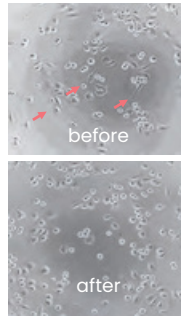
Collagen
Synthesize **70%**

Brightening **50%**

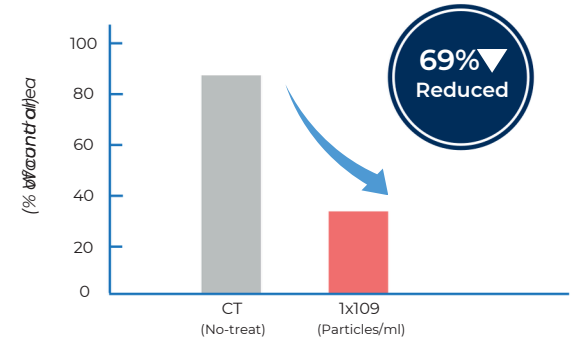
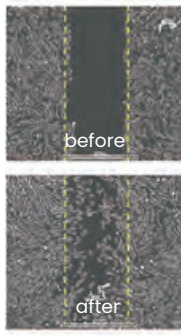


EXOCEAN hinders the transformation of macrophages into a dendritic shape induced by LPS*, thereby alleviating the inflammatory response.

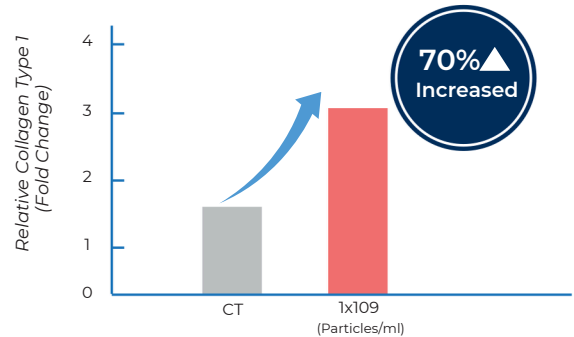
*Lipopolysaccharide (LPS) is the major component of the outer membrane of Gram-negative bacteria and induce of in ammatory.



EXOCEAN significantly aids in wound recovery, reducing the wound area by 68.8% and enhancing fibroblast activity by 232%.

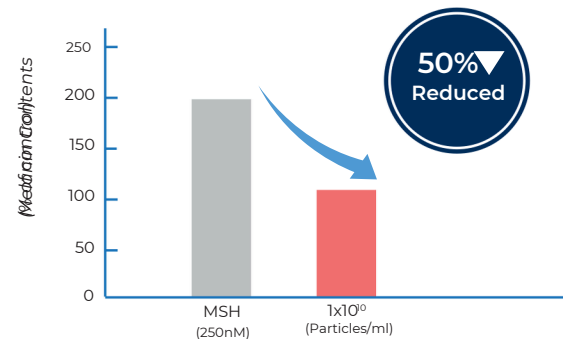


EXOCEAN enhances the production of type I collagen, increasing collagen synthesis by 70% compared to the positive control for up to 48 hours after treatment.



EXOCEAN has the effect of reducing melanin synthesis by α -MSH**.

** α -melanocyte-stimulating hormone





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