



ABio materials

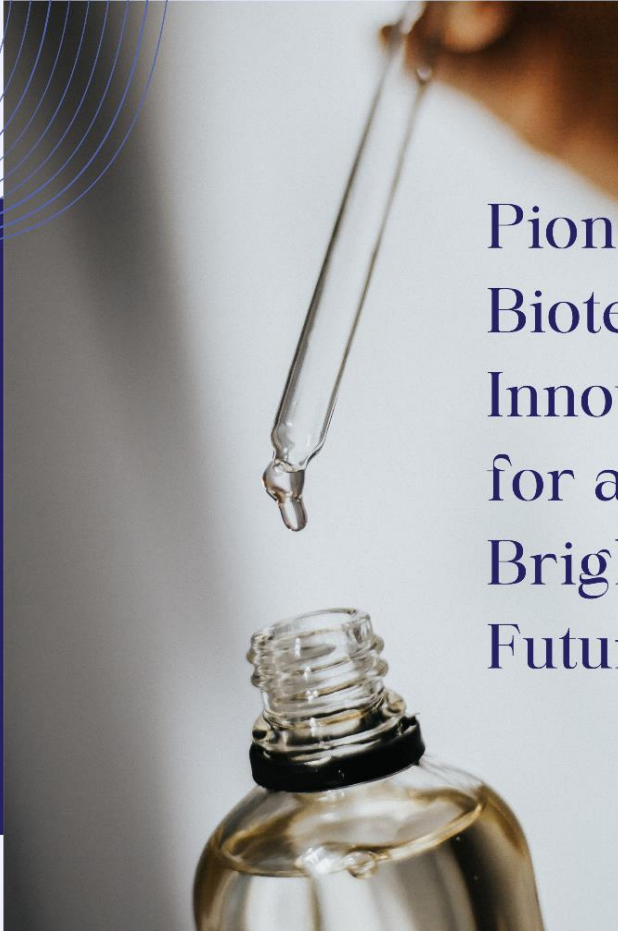


ABio materials Co., Ltd.

ADVANCED BIOMATERIALS



BIO-BASED NEW MATERIALS



Pioneering Biotech Innovation for a Brighter Future

UNLOCKING NEW HORIZONS WITH
BREAKTHROUGH EXOSOME
TECHNOLOGY

Certification



Venture Company



R&D Center



Certificate of Cosmetics, Medical Device and Food Manufacturer



EVE-Vegan(France)



ISO 9001, 22716: year 2023 Yongin



ISO 9001, 14001, 22716: year 2022 Cheonan



EFfCI (European Federation for
Cosmetic Ingredients GMP):
year 2024 Cheonan



CGMP



EFfCI

Greeting

Corporate Philosophy

A century-old enterprise, ceaselessly creating new value for the world.

Technical Field

Pharmacologically active substances or bioactive substances derived from living organisms.

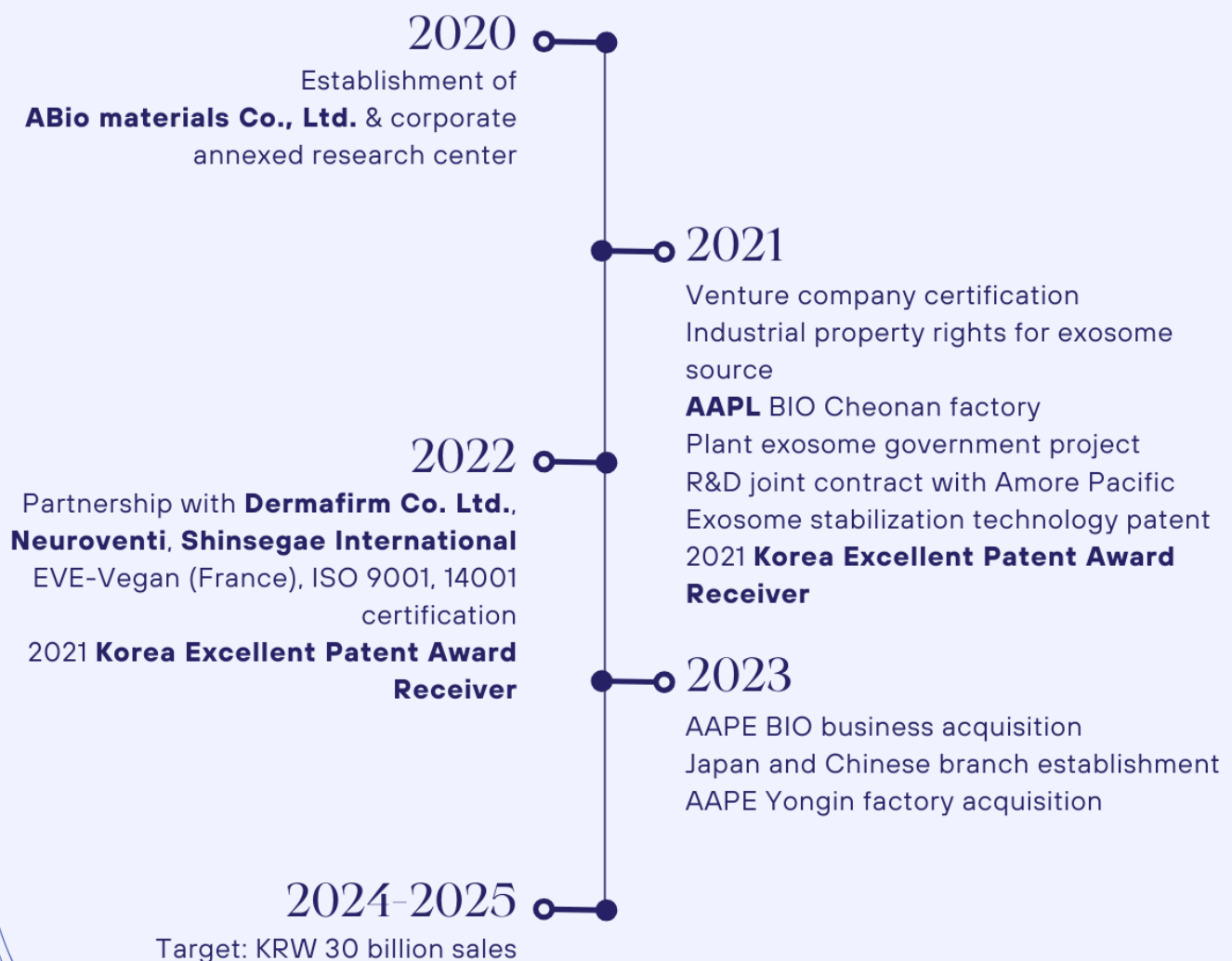
Industry Sector

Medical devices, cosmetics, food.

Business Area

Biotech new materials, ODM, Brand.

History



OFFICE | FACTORY

Location



HQ – Yongin
R&D Center & factory



Cheonan
R&D Center & factory



Seoul office



Jecheon factory

Technology

ExoTraction

Innovative patented technology for the isolation and purification of plant/lactobacillus exosomes

EssenTraction

Technology for plant PDRN isolation and purification

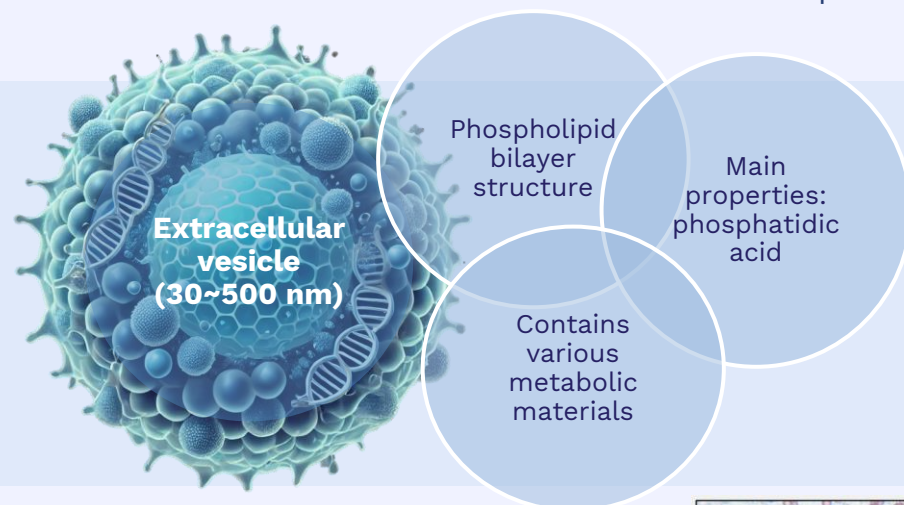
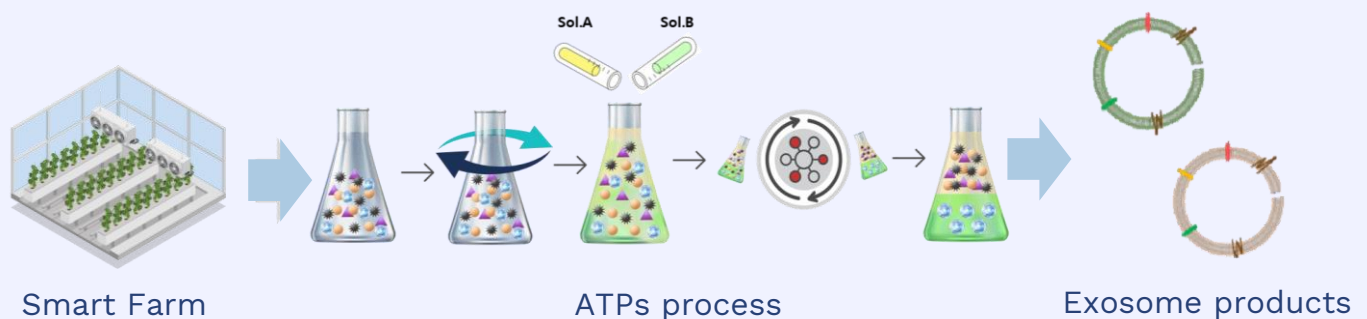
Stem Cell Culture Technology

Revolutionary increase in effective growth factors, more than 200% of contents from conventional ones, by using ABIO's proprietary serum-free medium

PLANT EXOSOME TECHNOLOGY

ExoTraction® = Exosome+ Extraction

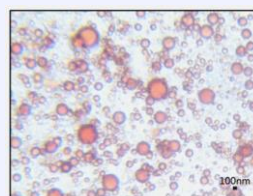
- ❑ Innovative patented exosome-extraction technology
- ❑ ABIO's own method for extraction, isolation, and purification of exosomes from plants and probiotics



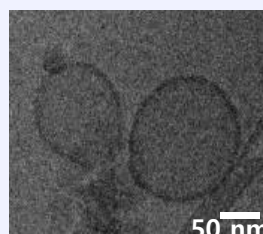
ADVANTAGES



Centella asiatica

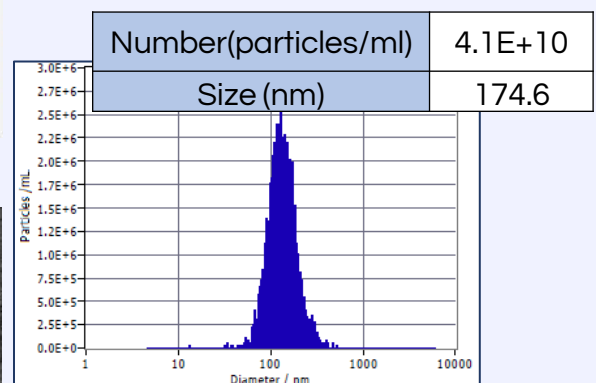


Oil red O staining



Cryo-TEM image

NTA result



Exosome characterization

PLANT TECHNOLOGY

Polydeoxyribonucleotides

PDRN

EssenTraction™

- ❑ Efficiently elute DNA in the cell using ABIO's proprietary extraction buffer
- ❑ Purify the DNA
- ❑ Manufacture small molecular PDRN through a low-temperature plasma technique



PSB Smart Farm



Cell nucleus isolation



Break nucleus



PN isolation



PN purification



PDRN formation



Angiogenesis

Cell growth

Anti-inflammatory

Wrinkles improvement



Origin:
Salmon PDRN



High cost



Raw material supply problems

Plant-derived PDRN as alternative

- ❑ Develop Plant PDRN with **higher stability** and **efficacy** compared to conventional salmon PDRN
- ❑ Low-molecular PDRN with **high purity/efficiency**

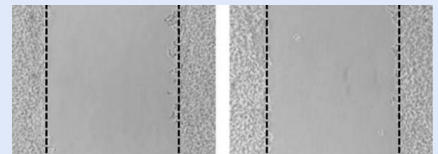
Salmon vs Plant

[cell/wound regeneration effect]

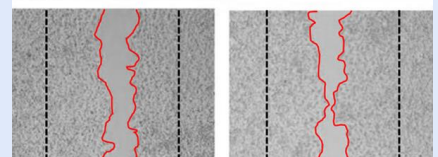
Salmon PDRN

Plant PDRN

0 h



18 h



HUMAN ADIPOCYTE DERIVED STEM CELL CULTURE TECHNOLOGY

Human adipocyte-conditioned media

The world's first registration of Adipose-Derived Stem Cell Culture Fluid as an International Cosmetic Ingredient (INCI)

✓ **Trade Name: AAPE**

✓ **INCI Name: Human Adipose Derived Stem Cell Conditioned Media**

- ISO 9001, ISO 22716 certified

- Annual Stem Cell Culture Fluid Production: Approximately 1,000 L

- Freeze-Dried Powder Production: Approximately 600,000 Vials

Human adipocyte stem cell exosome

- ABIO's unique **serum-free medium** and stem cell large-scale cultivation technology are used for mass production of exosomes
- Country's **highest and most significant level of exosome product production capacity**: 30,000 vials per month.
- Have a similar function to stem cells
- Useful proteins inside exosomes, miRNA → delivered to damaged cells/tissues → skin cell regeneration

Separation and Preservation of Adipose-Derived Stem Cells



Large-Scale Cultivation of Adipose-Derived Stem Cells



Hypoxic condition, vitamin ABC addition, Glutamin inhibition process for induction of growth factor

Abio's Patented technology



Featured Exosome Products

CENTELLA



INCI
Centella Asiatica Leaf
Vesicles (PCPC listed)

-  Anti-inflammatory
-  Cell regeneration
-  Wrinkle reduction

LACTO



INCI
Lactobacillus
Extracellular Vesicles
(PCPC listed)

-  Anti-hairloss
-  Cell regeneration

CAMELLIA



INCI
Camellia Japonica Flower
Vesicles (PCPC listed)

-  Moisturizing
-  Antioxidant

FIG



INCI
Ficus Carica
(Fig) Vesicles
(PCPC listed)

-  Anti-hairloss

HEARTLEAF



INCI
Houttuynia Cordata
Vesicles (PCPC listed)

-  Anti-inflammatory

Plant Exosomes

PRODUCT LIST



CENTELLA

Anti-wrinkle
Anti-inflammatory
Cell regeneration



PORTULACA

Moisturizing
Anti-inflammatory



HEARTLEAF

Anti-inflammatory



TEA TREE

Anti-inflammatory



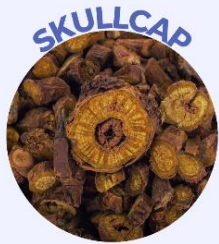
CABBAGE

Anti-inflammatory



ROSEMARY

Cell regeneration



SKULLCAP

Anti-hair loss



LOTUS

Moisturizing
Skin barrier



BRACKEN

Anti-inflammatory



PEONY

Anti-wrinkle



MAKINO

Cell regeneration



FIG

Anti-hairloss



MULTIFLORA

Anti-hairloss



TOMATO

Antioxidant
Brightening



GRAPEFRUIT

Anti-microbial
Anti-wrinkle



CAMELLIA

Moisturizing
Antioxidant



SPINACH

Anti-hairloss



PERILLA

Anti-inflammatory
Cell regeneration



GREEN TEA

Anti-inflammatory
Moisturizing



OAT

Moisturizing
Anti-inflammatory



BROCCOLI

Anti-hairloss



PGRP

Anti-wrinkle



ASPARA

Skin rejuvenation
Brightening



LACTO

Anti-hairloss
Anti-inflammatory



ROSE

Anti-inflammatory
Anti wrinkle



CHRYSAN

Anti-wrinkle
Skin barrier
Cell regeneration



GINKGO

Anti-wrinkle
Skin barrier
Cell regeneration



RICE

Moisturizing
Brightening



BLACK RICE

Moisturizing
Anti-inflammatory

Plant PDRN

PRODUCT LIST

PDRN is a low molecular weight DNA complex ranging from 50 to 2,000 base pairs. It influences all stages of the inflammatory response and wound healing, demonstrating **anti-inflammatory effects, promoting cell proliferation, and stimulating cell regeneration factors.**



Skin cell renewal
Antioxidant
Anti-inflammatory



Skin cell renewal
Skin brightening
Anti-inflammatory



Skin cell renewal
Moisturizing
Elasticity



Skin cell renewal
Anti-inflammatory
Hair care effect



Skin cell renewal
Anti-wrinkle



Skin cell renewal
Anti-wrinkle
Anti-inflammatory



Skin cell renewal



Skin cell renewal

INCI NAME

Plant & Microbiome Exosomes

No.	Product	Origin	INCI Name
1	(V)BioExo-Water(Cica8)VE	<i>Centella asiatica</i>	Centella Asiatica Leaf Vesicles
2	(V)BioExo-Water(Portula8)VE	<i>Portulaca oleracea</i>	Portulaca Oleracea Vesicles
3	(V)BioExo-Water(Heartleaf8)VE	<i>Houttuynia cordata</i>	Houttuynia Cordata Vesicles
4	(V)BioExo-Water(TeaTree8)VE	Tea Tree	Melaleuca Alternifolia (Tea Tree) Vesicles
5	(V)BioExo-Water(Cabbage8)VE	Cabbage	Brassica Oleracea Capitata (Cabbage) Leaf Vesicles
6	(V)BioExo-Water(Rosemary8)VE	Rosemary	Rosmarinus Officinalis (Rosemary) Vesicles
7	(V)BioExo-Water(Skullcap8)VE	<i>Scutellaria baicalensis</i>	Scutellaria Baicalensis Root Vesicles
8	(V)BioExo-Water(Lotus8)VE	<i>Nelumbo nucifera</i>	Nelumbo Nucifera Leaf Vesicles
9	(V)BioExo-Water(Bracken8)VE	<i>Pteridium aquilinum</i>	Pteridium Aquilinum Juice Vesicles
10	(V)BioExo-Water(Peony8)VE	<i>Paeonia lactiflora</i>	Paeonia Lactiflora Root Vesicles
11	(V)BioExo-Water(Makino8)VE	<i>Cnidium officinale</i>	Cnidium Officinale Root Vesicles
12	(V)BioExo-Water(Fig8)VE	Fig	Ficus Carica (Fig) Vesicles
13	(V)BioExo-Water(Multiflora8)VE	<i>Polygonum multiflorum</i>	Polygonum Multiflorum Root Vesicles
14	(V)BioExo-Water(Tomato8)VE	Tomato	Solanum Lycopersicum (Tomato) Fruit Vesicles
15	(V)BioExo-Water(Grapefruit8)VE	Grapefruit	Citrus Paradisi (Grapefruit) Fruit Vesicles
16	(V)BioExo-Water(Camellia8)VE	<i>Camellia japonica</i>	Camellia Japonica Flower Vesicles
17	(V)BioExo-Water(Spinach8)VE	Spinach	Spinacia Oleracea (Spinach) Leaf Vesicles
18	(V)BioExo-Water(Perilla8)VE	<i>Perilla Ocymoides</i>	Perilla Ocymoides Leaf Vesicles
19	(V)BioExo-Water(GreenTea8)VE	<i>Camellia sinensis</i>	Camellia Sinensis Leaf Vesicles
20	(V)BioExo-Water(Oat8)VE	Oat	Avena Sativa (Oat) Kernel Vesicles
21	(V)BioExo-Water(Broccoli8)VE	Broccoli	Brassica Oleracea Italica (Broccoli) Vesicles
22	(V)BioExo-Water(PGRP8)VE	<i>Panax ginseng</i>	Panax Ginseng Vesicles
23	(V)BioExo-Water(Aspara8)VE	Asparagus	Asparagus Officinalis Stem Vesicles
24	(V)BioExo-Water(LactoP8)VE	Lactobacillus	Lactobacillus Extracellular Vesicles
25	(V)BioExo-Water(Chrysan8)VE	<i>Chrysanthemum zawadskii</i>	Chrysanthemum Zawadskii Flower Vesicles
26	(V)BioExo-Water(Ginkgo8)VE	<i>Ginkgo biloba</i>	Ginkgo Biloba Leaf Vesicles
27	(V)BioExo-Water(Rose8)	<i>Rosa Damascena</i>	Rosa Damascena Flower Extract
28	(V)BioExo-Water(Rice8)	<i>Oryza Sativa</i>	Oryza Sativa (Rice) Seed Extract
29	(V)BioExo-Water(BlackRice8)	<i>Oryza Sativa</i>	Oryza Sativa (Rice) Seed Extract

Plant PDRN

No.	Product	Origin	INCI Name
1	HyPDRN Water(Camellia)	<i>Camellia japonica</i> flower	Hydrolyzed DNA
2	HyPDRN Water(Broccoli)	Broccoli	Hydrolyzed DNA
3	HyPDRN Water(Rose)	Rose	Hydrolyzed DNA
4	HyPDRN Water(Olive)	Olive	Hydrolyzed DNA
5	HyPDRN Water(Bean)	Bean	Hydrolyzed DNA
6	HyPDRN Water(Cica)	<i>Centella asiatica</i> leaf	Hydrolyzed DNA
7	HyPDRN Water(Crispa)	<i>Sparassis crispa</i>	Hydrolyzed DNA
8	HyPDRN Water(Black Rice)	<i>Oryza sativa</i>	Hydrolyzed DNA

ODM

PRODUCT LIST

Exo Highest+ 945 Ampoule

With human adipocyte stem cell (93%), rose exosome, and tomato exosome, an ampoule that promotes cell regeneration and deep moisturizing



S-ashe



ESTHER Formula

ESTNU by Esther Glutathione Ultra Glow Shot Ampoule

- Cica exosome: wrinkle reduction, anti-inflammatory, cell regeneration
- Heartleaf exosome: anti-inflammatory
- Peony exosome: wrinkle reduction
- Tomato exosome: antioxidant, brightening
- Camellia exosome: moisturizing, antioxidant

Cellassom ExoLagen Shining Mist Serum

- Cica exosome: skin-soothing, brightening, antioxidant
- Lotus exosome: moisturizing, nutritional-care
- Rosemary exosome: antioxidant and anti-inflammatory



Cellassom

Heartleaf Exo Barrier Skin Booster Cream

- Heartleaf exosome: skin barrier improvement, soothing
- Cellularsome TECA 5: moisturizing, nourishing



Cellassom Exo LHA Intensive Cleansing Milk



Cellassom ExoLac Daily All-In-One Essence Cream

Briskin



Heartleaf Exo Barrier Skin Booster Serum



Heartleaf Exo Barrier Skin Booster Toner Pad

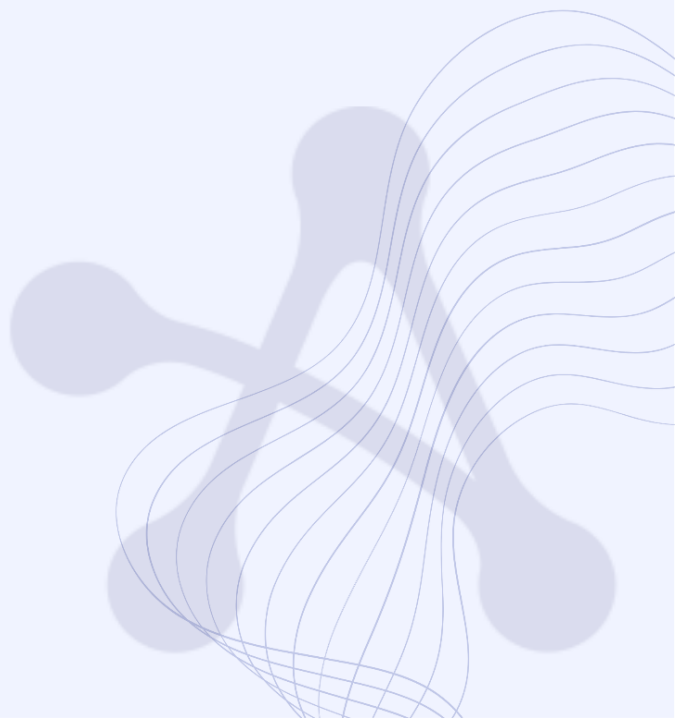
Porethera shot exosome spicule serum

Contains cica exosome (100% purity) with a form of microneedle, a serum that minimizes irritation and provides a tightening effect.

Meditherapy



M E M O





ABio materials

www.a-bio.co.kr

