

BioMab, Inc.

Improve Human Health Through Innovations

BioMab Portfolio

Cell Therapy Related Products

NK Cell Expansion Kit (DSNK)

- >3000X expansion rate with >90% in purity
- No feeder cells, no animal origin materials
- Obtained TFDA Medical Devices Designation



EV Production Kit

- For AD-MSC, BM-MSC, CB-MSC EV productions
- Chemical Defined (no animal origin)
- High EV quantity production



MSC Expansion Kit

- For AD-MSC, BM-MSC, CB- MSC
- Materials collections in compliant with US FDA
- Low CD142 expressions
- Consistent quality, no jelly-like formation



EV (Powder)

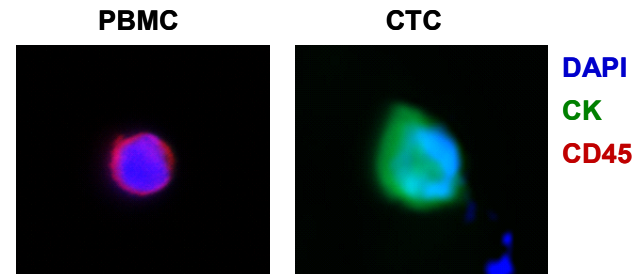
- From Hu-MSC
- Each vial contains > 10 Billion EVs
- Manufactured in GMP compliant facility



Precision Medicine Related Products

Circulating Tumor Cell (CTC) Platform

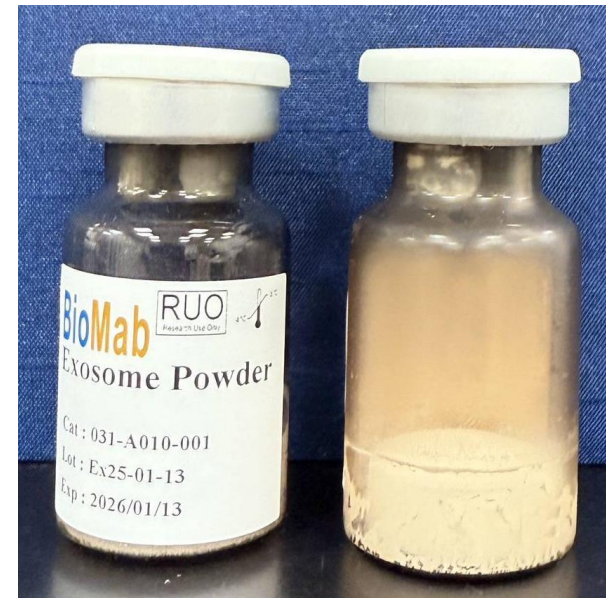
- High sensitivity: proprietary anti-EpCAM antibody has the highest binding affinity in the world ($K_d < 10^{-12}$)
- High specificity: conducted NGS on CTCs obtained from patients
- Capturing single CTCs and clusters
- For breast cancer, colorectal cancer, lung cancer (solid tumors)
- Offering CTC testing services in Taiwan and Japan



Exosome (EV) Powder

Exosome (EV) Powder

- ✓ From Hu-MSC
- ✓ Each vial contains > 10 billion EV particles
- ✓ Manufactured in GMP Compliant facility
- ✓ EV cultured using chemically defined medium, with no animal origin



Exosome (EV) Powder - Specs

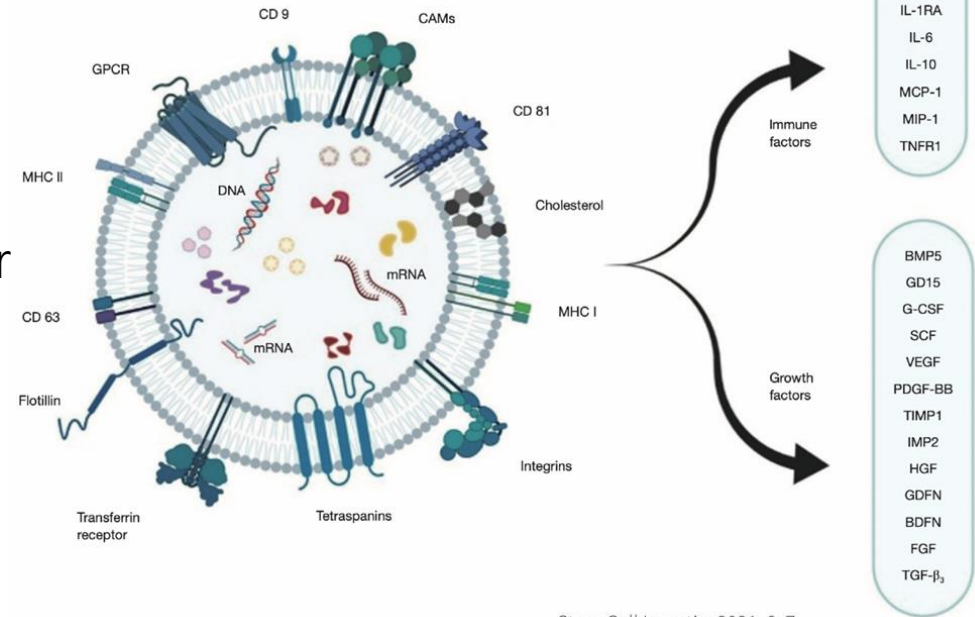
Source	Hu-MSC
Biomarkers	CD9, CD63, CD81
Size	50-150nm
Safety Tests	Mycoplasma, Endotoxin, Sterility
Viral Tests	HBV, HCV, HIV, HTLV, Syphilis
EV Particles / Vial	> 100 Billion/Vial
Storage	2-8°C for 1 Year
Instructions	Dissolve in saline solution before use
Manufacturing	GMP Compliant Facility

Background on EV

Exosome (EV)

- ✓ For anti-inflammation, regeneration, immune regulation, rejuvenation, anti-aging
- ✓ Cell-derived vesicles that carry bioactive molecules and deliver
- ✓ 30 to 150 nanometers
- ✓ Potential clinical applications for diagnostics, drug delivery and cosmetic uses

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Stem Cell Investig. 2021, 8, 7

Potential Clinical Applications

Neurodegenerative disease

- ✓ Stroke
- ✓ Alzheimer
- ✓ Parkinson
- ✓ Cerebral Palsy & Paralysis

Internal Medicine & Surgery

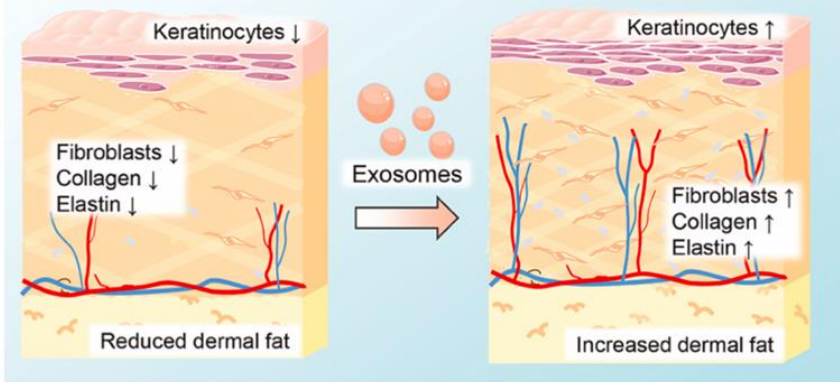
- ✓ Wound healing
- ✓ Atopic dermatitis
- ✓ Autoimmune disease
- ✓ Chronic kidney disease
- ✓ Diabetes
- ✓ Orthopedics

Cosmetic & Anti-Aging

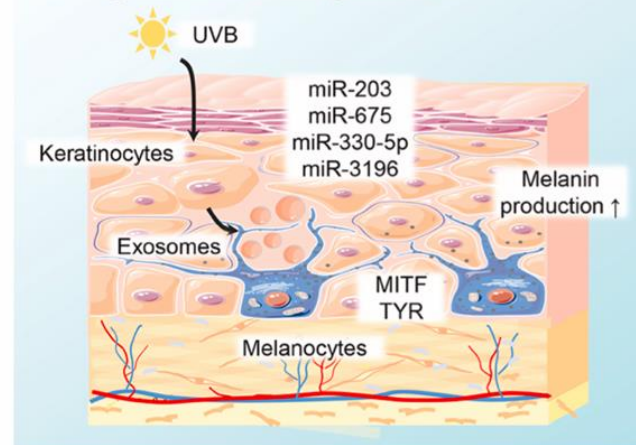
Scar removal, blemishes, skin care

- ✓ Increase cell regenerations
- ✓ Increase collagen and elastin regeneration

B. Skin rejuvenation



C. Pigmentation regulation

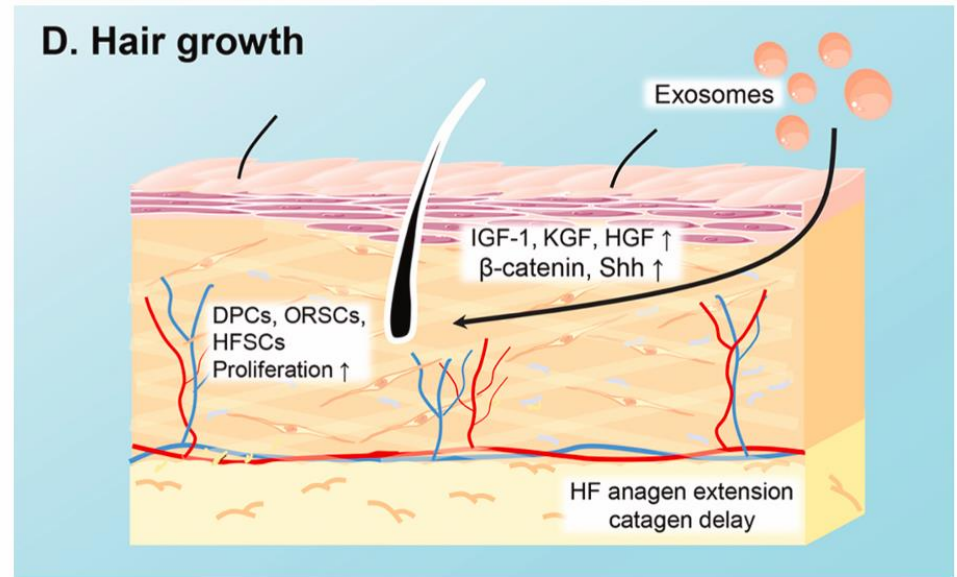


Pharmacy Res. 2021, 166, 105490

Hair Loss

EVs contain multiple growth factors

- ✓ Stimulates growth of hair follicle dermal papilla cells
- ✓ Activate hair follicle dermal papilla stem cells
- ✓ Does not impact the functions of the androgen



Pharmacy Res. 2021, 166, 105490

Exosome vs. PRP

	Exosome	PRP
Sources	Vesicles from various cells	Blood samples of the patient
Applications	Skin rejuvenation, wound healing, neuroprotection	Skin care, hair loss, osteoarthritis, post-surgery wound healing
Mechanism	Delivery of various proteins, RNA and DNA as drug delivery vehicles	Tissue regenerations through growth factors
Risk	Low risk for immune responses	Low risk, might cause redness and swelling

Exosome vs. Stem Cell Therapy

	Exosome	Stem Cell Therapy
Sources	Vesicles from various cells	Placenta, cord blood, bone marrow, adipose tissue
Penetrating	Nano-size, penetrating through BBB, uptakes by cells and blood vessels	Large size, no uptakes by cells
Mechanism	Delivery of various proteins, RNA and DNA as drug delivery vehicles	Stem cells can regenerate and differentiate
Storage	Can be preserved for a long time	Short shelf life

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