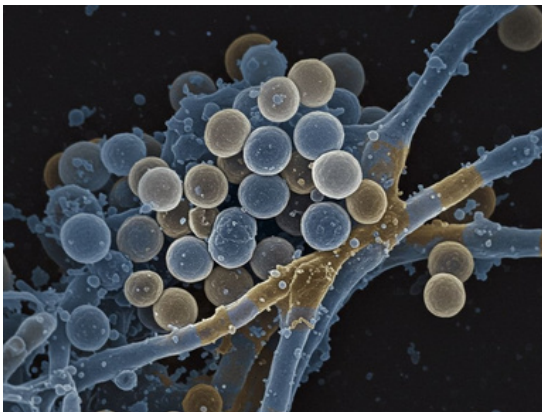
MANDARINE EXOSOMES Code: EXO-3



Definition: Exosomes are small, nanometer-sized extracellular vesicles secreted by cells. They act as messengers, transporting proteins, nucleic acids, and other molecules to other cells. They play a crucial role in intercellular communication and various biological processes. They are generated from late endosomes, which are intracellular compartments, through a process called multivesicular body (MVB) formation. Intraluminal vesicles form in the lumen of the endosome and subsequently fuse with the cell membrane to be released as exosomes.
Exosomes are not simple empty sacs; they contain various molecules, such as proteins, lipids, nucleic acids (mRNA, miRNA, etc.), and metabolites.

Cosmetic properties: Mandarin exosomes have gained popularity in the cosmetics industry for their potential to improve skin health.
They offer improved hydration, protection, and radiance, as well as anti-wrinkle and anti-inflammatory properties.
They have powerful antioxidant action, helping to fight free radicals and prevent skin aging.
They also provide protection against oxidative stress and environmental damage.
They can stimulate the production of collagen and elastin, which could reduce wrinkles and improve skin elasticity.
They increase the production of filaggrin, a protein crucial for maintaining a healthy skin barrier.
Exosomes can reduce the production of inflammatory substances such as TNF-alpha and IL-6, which could help with conditions like eczema and psoriasis.
They improve skin hydration levels by inducing the production of hyaluronic acid.
Mandarin exosomes may help regulate melanin production, which could reduce hyperpigmentation and promote a more even skin tone.
They promote skin cell proliferation and migration, which aids wound repair and minimizes scarring.

References:

1 Therapeutic Values of Exosomes in Cosmetics, Skin Care, Tissue Regeneration, and Dermatological Diseases
by Abhimanyu Thakur ,Disheet Shah,Deepika Rai,Diana Carolina Parra, Spoorthy Pathikonda,Svetlana Kurilova andAlma Cili.

2 Zhang, S.; Duan, E. Fighting against Skin Aging: The Way from Bench to Bedside. Cell Transplant. 2018, 27, 729–738. [CrossRef] [PubMed]

3 Haydont, V.; Bernard, B.A.; Fortunel, N.O. Age-related evolutions of the dermis: Clinical signs, fibroblast and extracellular matrix dynamics. Mech. Ageing Dev. 2019, 177, 150–156. [CrossRef] [PubMed]

4 Monavarian, M.; Kader, S.; Moeinzadeh, S.; Jabbari, E. Regenerative Scar-Free Skin Wound Healing. Tissue Eng.-Part B Rev. 2019, 25, 294–311. [CrossRef] [PubMed

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CODE: EXO-3 Date of last amendment: 22.03.2025

INCI name: CITRUS TANGERINA EXTRACT (AND) CITRUS TANGERINA VESICLES (AND) PROPANEDIOL (AND) SODIUM LEVULINATE (AND) XANTHAN GUM (AND) POTASSIUM SORBATE.

Description: Mandarin extract enriched with exosomes isolated by ultra-filtration of said concentrated extract and stabilized in a natural fluid gel of xanthan gum.

Properties: Antioxidant, moisturizer, brightens skin, helps reduce fine lines and wrinkles, and improves elasticity.

COMPOSITION (INCI NAME)	% (Weight)	# CAS
Citrus Tangerina Extract (and) Citrus Tangerina Vesicles	94,150	84696-21-9 (and) ---
Xanthan Gum	0,300	11138-66-2
Preservatives:		
Propanediol	5,000	504-63-2
Sodium Levulinate	0,400	19856-23-6
Potassium Sorbate	0,150	24634-61-5

Concentration of Exosome Particles	Greater than 10 billion particles/ml. Measurement method: NTA (Nanoparticle Tracking Analysis). Equipment: Nanosight NS300 (MALVERN PANALYTICAL, U.K.)
Particle size	30 nm -500 nm (NTA Method: Nanoparticle Tracking Analysis)
Extraction method:	Ultra-Filtration.
Net surface charge of the particle:	Negative.
Aspect:	Semi-translucent to opalescent fluid gel.
Color:	Colorless to slightly yellow or orange.
Odor:	Pleasant.
pH:	4,00 – 6,00 (25ºC) (USP XLIV and sub. updates).
Density:	0,980 – 1,050 (pycnometer) (20ºC) (USP XLIV and sub. updates).
Dry residue:	3 gr % minimum (0,5 gr. 1 hour 110° C).
Microbiological control:	Mesophilic bacteria: less than 100 CFU/gr. Moulds & yeast: less than 20 CFU/gr. No pathogens.
Observation:	The product may form flocs or precipitates after long periods of storage. These are easily dispersed with gentle agitation.

Keep refrigerated (5-15°C). Do not freeze. Protect from light. Shake before use.

EXTERNAL COSMETIC USE