

Creative Biolabs Advances Plant-Derived EV Platform for Oral Delivery and Botanical Therapeutics Research

Creative Biolabs announced its platform for plant-derived exosomes, supporting researchers in exploring botanical nanovesicles as emerging delivery systems.

SHIRLEY, NY, UNITED STATES, July 27, 2026 /EINPresswire.com/ -- By optimizing isolation strategies and characterization workflows for edible botanical sources, Creative Biolabs provides researchers with standardized tools to investigate naturally derived nanovesicles for applications in drug delivery, nutraceutical research, and botanical therapeutics development.



Unlocking the Bioactive Potential of Plant-Derived Nanovesicles

[Plant-derived extracellular vesicles](#) (plant EVs), sometimes referred to as plant exosome-like vesicles, represent an emerging area in nanomedicine and functional biotechnology. Compared with synthetic nanoparticles and viral delivery systems, plant EVs may offer favorable biocompatibility profiles, natural lipid membrane structures, and potential roles in cross-kingdom molecular interactions.

To address growing interest in non-animal and naturally sourced delivery platforms, Creative Biolabs has expanded its specialized research services for plant EV isolation and characterization. The platform supports high-quality extraction, multi-omics profiling, and functional evaluation across diverse botanical sources, including medicinal plants, crops, fruits, and root tissues.

"Plant-derived vesicles contain naturally occurring molecular components, including lipids, nucleic acids, and small bioactive molecules, which may contribute to their biological functions," stated a senior scientist at Creative Biolabs. "Our goal is to help research teams establish

reproducible isolation and analytical workflows using complementary technologies, including ultracentrifugation, size-exclusion chromatography (SEC), and affinity-based enrichment approaches."

Fruit-Derived Nanovesicles: Exploring Stability and Functional Applications

Within the expanding plant EV research landscape, fruit-derived sources have attracted increasing attention due to their abundance, accessibility, and diverse molecular composition. Studies suggest that nanovesicles derived from botanical sources such as citrus, grapes, apples, and berries may contain protective lipid structures capable of supporting the delivery and preservation of associated bioactive components.

Creative Biolabs' technical framework for fruit-derived extracellular vesicle research includes downstream characterization and functional assessment, including nanoparticle tracking analysis (NTA), transmission electron microscopy (TEM), molecular profiling, and cellular uptake studies.

These analytical capabilities enable researchers to investigate the potential applications of plant-derived vesicles in areas such as topical formulations, regenerative research, and functional nutrition.

Exploring Plant EVs as Potential Oral Delivery Platforms

A major challenge in biopharmaceutical development is maintaining the stability and activity of sensitive biological molecules during gastrointestinal (GI) transit. Edible plant-derived extracellular vesicles have emerged as promising candidates for investigation as naturally sourced oral delivery carriers.

As highlighted in Creative Biolabs' [food-derived extracellular vesicle](#) research platform, plant EVs may exhibit stability advantages under gastrointestinal conditions and are being investigated for their potential ability to support oral delivery of nucleic acids, proteins, and other bioactive molecules.

Through integrated isolation, characterization, and functional testing workflows, Creative Biolabs helps researchers evaluate critical parameters associated with plant EV-based delivery systems, including particle integrity, cargo composition, biological interactions, and cellular uptake properties.

To explore Creative Biolabs' plant-derived extracellular vesicle isolation and functional evaluation platforms, visit: <https://www.creative-biolabs.com/exosome/>.

About Creative Biolabs

Creative Biolabs is a biotechnology company providing comprehensive extracellular vesicle research solutions, including custom isolation, molecular profiling, characterization, and functional analysis services. With expertise spanning cell-derived EVs, plant-derived extracellular

vesicles, and synthetic vesicle-based platforms, Creative Biolabs supports researchers in advancing innovative delivery technologies and biotechnology applications.

Candy Swift

Creative Biolabs

+1 631-830-6441

marketing@creative-biolabs.com

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