Navigating the World of Extracellular Vesicles

Article collection

WILEY

Extracellular vesicles (EVs), including exosomes, are small, lipid bilayer-delimited particles. They carry unique surface markers, and cargo molecules such as proteins and nucleic acids that reflect the origin and state of the cells that secreted them. EVs also play a critical role in intercellular communication, including in cancer.

Ultracentrifuge is a gold standard for EV isolation.

A quick and simple EV isolation process is vital for advancing research in diagnostic tools and therapies. Using a user-friendly ultracentrifuge can significantly reduce sample preparation time while ensuring sterile working conditions. With **visual sample balancing**, there's no need to clean the scale and use a laminar hood for balancing.

In this article collection, we've highlighted papers that examine their potential in novel small EV production modulators, EV isolation from plants and purification, engineered exosomes in tumor immunology, and EV bioprocessing.

Here's just some of what you'll find in the article collection:

Enhanced bioprocess control to advance the manufacture of mesenchymal stromal cell-derived extracellular vesicles in stirred-tank bioreactors.

Costa et al. 2023

Effective methods for isolation and purification of extracellular vesicles from plants.

Huang et al. 2021

The identification of novel small extracellular vesicle (sEV) production modulators using luciferase-based sEV quantification method.

Yamamoto et al. (2022)

Want to learn more?

Download the full article collection to discover more about the current and future role of EVs in cancer diagnosis and treatment.

eppendorf

Download now

Navigating the World of Extracellular Vesicles

Article collection

WILEY

Extracellular vesicles (EVs), including exosomes, are small, lipid bilayer-delimited particles. They carry unique surface markers, and cargo molecules such as proteins and nucleic acids that reflect the origin and state of the cells that secreted them. EVs also play a critical role in intercellular communication, including in cancer.

Ultracentrifuge is a gold standard for EV isolation.

A quick and simple EV isolation process is vital for advancing research in diagnostic tools and therapies. Using a user-friendly ultracentrifuge can significantly reduce sample preparation time while ensuring sterile working conditions. With **visual sample balancing**, there's no need to clean the scale and use a laminar hood for balancing.

In this article collection, we've highlighted papers that examine their potential in novel small EV production modulators, EV isolation from plants and purification, engineered exosomes in tumor immunology, and EV bioprocessing.

Here's just some of what you'll find in the article collection:

Enhanced bioprocess control to advance the manufacture of mesenchymal stromal cell-derived extracellular vesicles in stirred-tank bioreactors.

Costa et al. 2023

Despite representing a promising alternative to cell-based therapies, clinical translation of EVs is currently limited by their lack of scalability and standardized bioprocessing. In this article, the authors:

- Explore the bioprocessing of mesenchymal stromal cell-derived EVs in stirred-tank bioreactors
- Demonstrate the importance of bioprocess control in the manufacture of EVs
- Describe the use of process analytical technology to optimize EV production

Want to learn more?

Download the full article collection to discover more about the current and future role of EVs in cancer diagnosis and treatment.

eppendorf

Download now

Navigating the World of Extracellular Vesicles

Article collection

WILEY

Extracellular vesicles (EVs), including exosomes, are small, lipid bilayer-delimited particles. They carry unique surface markers, and cargo molecules such as proteins and nucleic acids that reflect the origin and state of the cells that secreted them. EVs also play a critical role in intercellular communication, including in cancer.

Ultracentrifuge is a gold standard for EV isolation.

A quick and simple EV isolation process is vital for advancing research in diagnostic tools and therapies. Using a user-friendly ultracentrifuge can significantly reduce sample preparation time while ensuring sterile working conditions. With **visual sample balancing**, there's no need to clean the scale and use a laminar hood for balancing.

In this article collection, we've highlighted papers that examine their potential in novel small EV production modulators, EV isolation from plants and purification, engineered exosomes in tumor immunology, and EV bioprocessing.

Here's just some of what you'll find in the article collection:

Enhanced bioprocess control to advance the manufacture of mesenchymal stromal cell-derived extracellular vesicles in stirred-tank bioreactors.

Costa et al. 2023

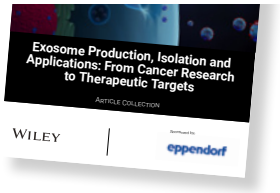
Effective methods for isolation and purification of extracellular vesicles from plants.

Huang et al. 2021

Plant EVs play critical roles in the movement of molecules from hosts to interacting microbes, most notably in plant defence responses. However, the isolation of pure, intact EVs from plants remains challenging. In this article, the authors:

- Display the potential applications of plant-derived EVs in agriculture and biotechnology
- Describe effective methods for their isolation and purification
- Provide a guide for the selection and optimization of EV isolation methods for desired downstream applications

Download the full article collection to discover more about the current and future role of EVs in cancer diagnosis and treatment.



Download now

Navigating the World of Extracellular Vesicles

Article collection

WILEY

Extracellular vesicles (EVs), including exosomes, are small, lipid bilayer-delimited particles. They carry unique surface markers, and cargo molecules such as proteins and nucleic acids that reflect the origin and state of the cells that secreted them. EVs also play a critical role in intercellular communication, including in cancer.

Ultracentrifuge is a gold standard for EV isolation.

A quick and simple EV isolation process is vital for advancing research in diagnostic tools and therapies. Using a user-friendly ultracentrifuge can significantly reduce sample preparation time while ensuring sterile working conditions. With **visual sample balancing**, there's no need to clean the scale and use a laminar hood for balancing.

In this article collection, we've highlighted papers that examine their potential in novel small EV production modulators, EV isolation from plants and purification, engineered exosomes in tumor immunology, and EV bioprocessing.

Here's just some of what you'll find in the article collection:

Enhanced bioprocess control to advance the manufacture of mesenchymal stromal cell-derived extracellular vesicles in stirred-tank bioreactors.

Costa et al. 2023

Effective methods for isolation and purification of extracellular vesicles from plants.

Huang et al. 2021

The identification of novel small extracellular vesicle (sEV) production modulators using luciferase-based sEV quantification method.

Yamamoto et al. (2022)

The amount of circulating sEVs has been reported to correlate with the progression of certain diseases, meaning that the identification of the small molecular compounds that can control sEV production could offer a therapeutic strategy. In this article, the authors:

- Describe a novel method for identifying sEV production modulators
- Demonstrate the use of a luciferase-based quantification method to screen for small molecules that can modulate EV production
- Identify two novel compounds that showed significant and dose-dependent changes to Gaussia luciferase (gLuc) activity