

Let's talk Exosomes

Introducing ExosomesTalk, a new community for scientists in the exciting field of exosome research

Join the conversations by responding to questions posted by your fellow scientists, and post your own queries. Our goal is to help you achieve faster breakthroughs by building products and services tailored to your needs.

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FAQs: Exosomes

- 1 What are exosomes?**
Exosomes are classically defined as vesicles originating from the endosomal compartment by fusion of multivesicular bodies with the plasma membrane. They are part of a larger family of vesicles secreted by cells, including microvesicles, ectosomes, and shed particles, which are formed by direct budding from the plasma membrane. Exosomes are 30–150 nm in diameter and contain unique mRNAs, miRNAs, ncRNAs, and proteins. Secreted by all cells, they are present in body fluids in millions per microliter. Different cell types can secrete multiple types of exosomes, and their functions include transport of RNAs and proteins for cell-to-cell communication.
- 2 How can you be certain you have exosomes and not other vesicles?**
To be categorized as exosomes, the vesicles should be 30–150 nm in size and positive for certain surface protein markers, such as tetraspanins. The most widely accepted marker is CD63, but CD81 and CD9 are utilized as well. A combination of flow cytometry, EM, and western analysis is often used to confirm that the vesicles are exosomes.
- 3 How can exosomes be isolated?**
Within the last year, several reagents and kits have become commercially available, such as the Total Exosome Isolation reagents, which allow fast and easy recovery of exosomes from cell culture media and various body fluids.
- 4 How are exosomes visualized or quantified?**
Exosomes are too small to be seen under a regular microscope. The typical methods of analysis of size distribution and quantitation include electron microscopy and nanoparticle counters, such as NanoSight® and Izon® counters.