Extracellular vesicles (EVs), including exosomes and microvesicles, are lipid bilayer-delimited structures naturally released from cells. EVs function in intercellular communication under homeostatic and pathological conditions and are frequently characterized by the expression of the tetraspanin proteins CD9, CD63, and CD81. The lumens of EVs contain protein, RNA/DNA, cytokine, or lipid cargoes that reflect the state of the cell of origin. Along with the study of fundamental EV biology, there is growing interest in studying the composition of EV cargoes to identify diagnostic or prognostic biomarkers of disease, as well as to assess the therapeutic potential of EVs.

**Why Use EasySep™ Human Extracellular Vesicle Positive Selection Kits?**
- Isolate human EVs in as little as 30 minutes without the use of columns
- Avoid the need for ultracentrifugation and associated time-consuming EV isolation methods
- Achieve greater efficiency compared to ultracentrifugation-based EV isolation methods

**EasySep™ Human Extracellular Vesicle Positive Selection Kits**

Traditional density gradient-based methods for isolating EVs require researchers to have access to an ultracentrifuge and involve time-consuming protocols. In contrast, EasySep™ Human Extracellular Vesicle Positive Selection Kits target EVs using tetrameric antibody complexes that recognize CD9, CD63, and/or CD81, and magnetic particles. Labeled EVs are separated using an EasySep™ magnet without the use of columns and remain in the tube while unwanted biofluid components are poured off. EVs from biofluids, including serum and plasma, and from culture-conditioned medium, can be isolated in as little as 30 minutes and are immediately available for downstream applications, including RNA extraction, western blot, or mass spectrometry. The data figures on the following page demonstrate the high yield, quality, and downstream compatibility of the EVs isolated using EasySep™ Human Extracellular Vesicle Positive Selection Kits.

**How Does It Work?**

1. Add EasySep™ Selection Cocktail to processed biofluids
2. Add magnetic nanoparticles
3. Perform magnet wash 1 x 5 min, 1 or 3 x 1 min
4. Incubate 10 minutes
5. Incubate 10 minutes
6. Pour out supernatant. CD9/CD63/CD81+ EVs stays in the tube

**Figure 1. Procedure for Isolating EVs From Biofluids Using EasySep™ Human Pan-Extracellular Vesicle Positive Selection Kit**

**Figure 2. Images of Plasma-Derived EVs Isolated Using EasySep™ Human Pan-Extracellular Vesicle Positive Selection Kit**

Transmission electron microscopy (TEM) analysis following immunomagnetic-based selection shows intact and spherical-shaped (arrows) plasma-derived EVs. The isolated EVs are attached to tetrameric antibody complexes and magnetic particles.
A commercially available immunocapture-based EV isolation kits. Extracellular Vesicle Positive Selection Kit when compared to EVs isolated using other quality at STEMCELL, refer to www.stemcell.com

Products are for research use only and not intended for human or animal diagnostic or therapeutic uses unless otherwise stated. For additional information on quality at STEMCELL, refer to www.stemcell.com/compliance.