

UKEV Sheffield 2018

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Company overview

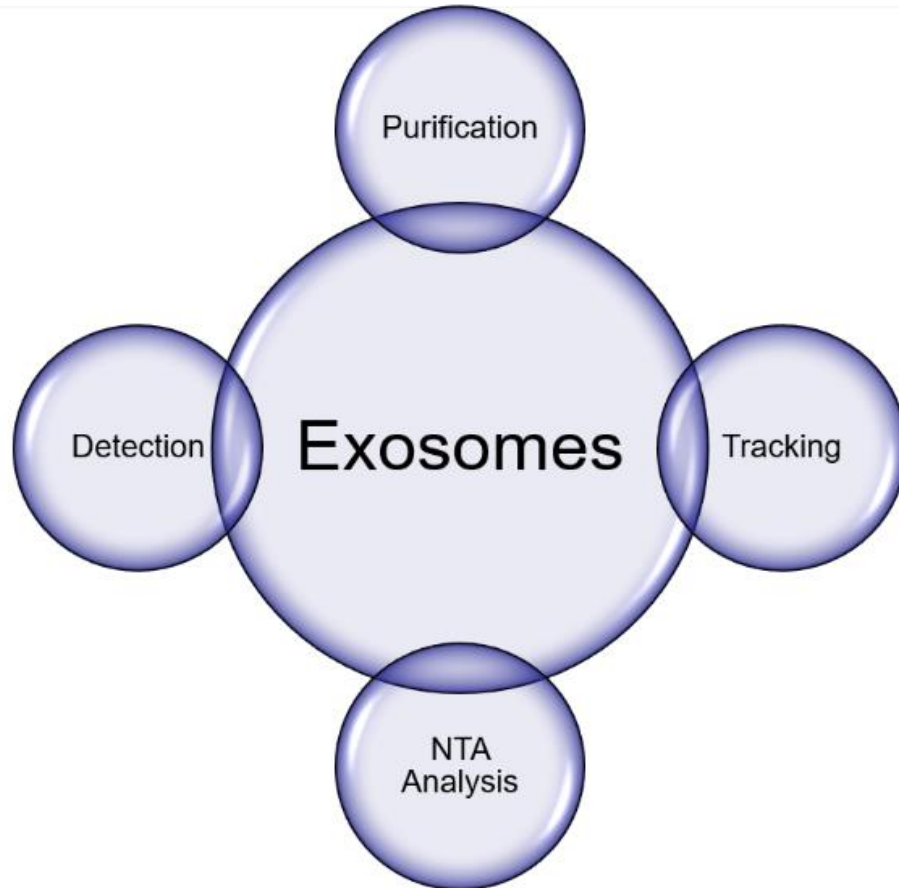
Cell Guidance Systems
provide reagents and services
to enable control, manipulation
and monitoring of the cell,
both *in-vitro* and *in-vivo*


Products and services

- Cell Culture Media
- Growth factors
 - Recombinant and PODS®
- Exosomes
 - **Purification:** Exo-spin™
 - **Detection:** TRIFic™
 - **Tracking:** ExoFLARE™
 - **Profiling:** NTA Service
- Cytogenetics Services
- Custom Medium Production
- NTA Size Profiling Service
- SINEUP
 - Gene knock-up system



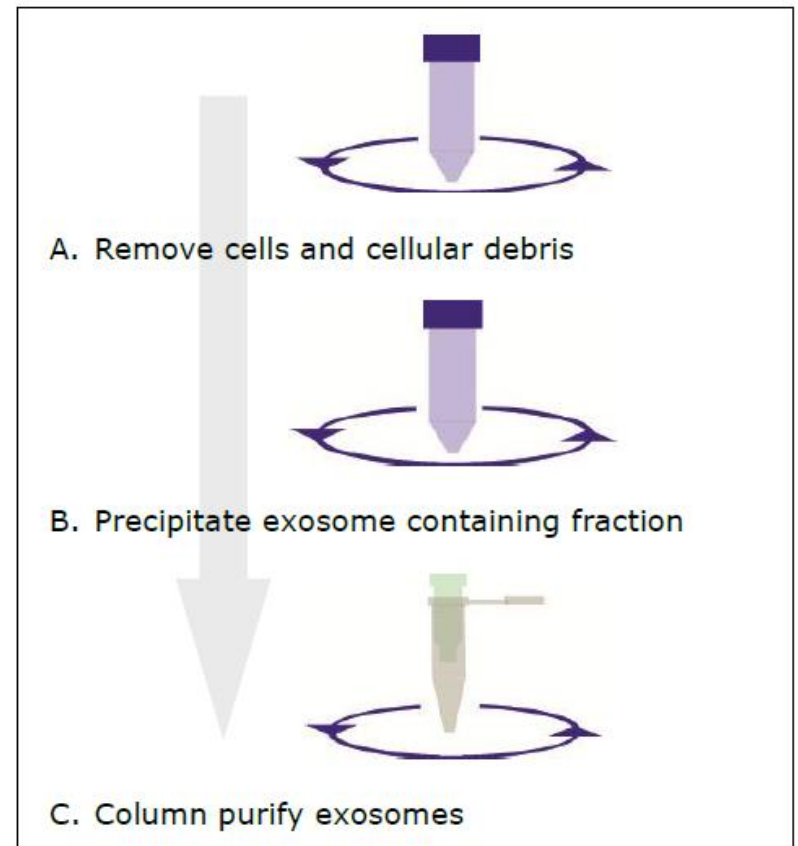
Product areas – Exosomes



- Purification
 - Detection
 - Tracking
 - NTA Size Profiling Service
- 

Exosome Purification Kits: Exo-spin™

- Simple, easy-to-follow protocols
- Variety of downstream applications including RNA analysis, protein analysis and functional use



Exo-spin™ Exosome Purification Kits Types

- **Exo-spin™ Exosome Purification Kit**
 - Variety of biological fluids including cell culture media, urine, saliva and other low-protein biological fluids
- **Exo-spin™ Blood Exosome Purification Kit**
 - Blood (plasma/sera) samples
- **Exo-spin™ Columns**
 - Column bed volume 0.5ml
- **Exo-spin™ Midi Columns**
 - Column bed volume 10ml

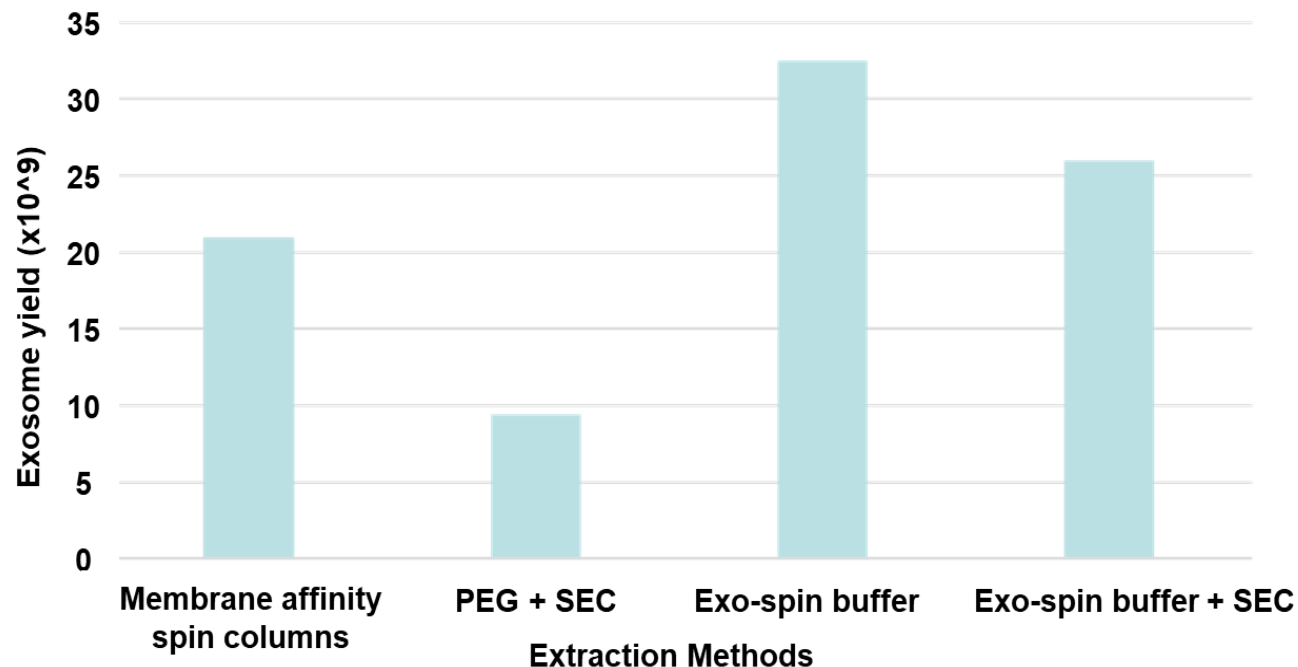


Exo-spin™ columns

Exo-spin™: Highest yield

Unpublished data from **Dr. Triantafillos Liloglou**, part of the Lung Cancer Group at the University of Liverpool, UK.

- Comparison data:
 - Precipitation efficiency of the Exo-spin™ buffer vs. PEG 6000
 - Exosome yield of Exo-spin™ Midi columns vs. Membrane affinity spin columns

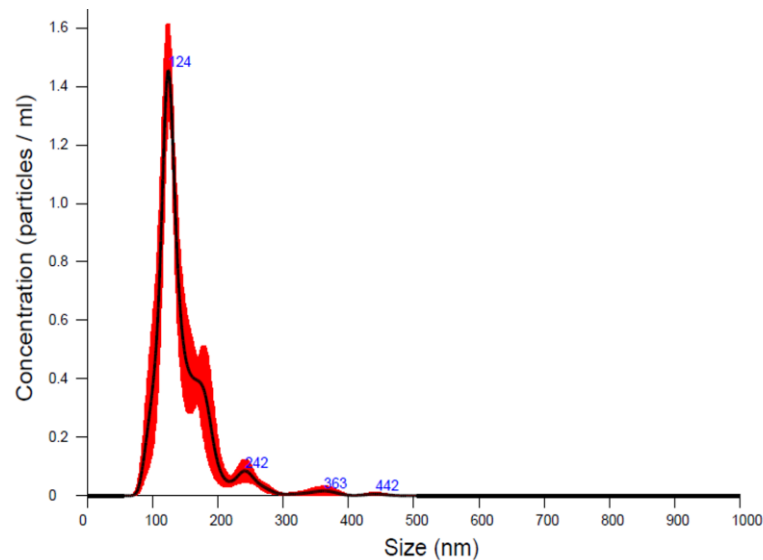


Exo-spin™: Highest purity

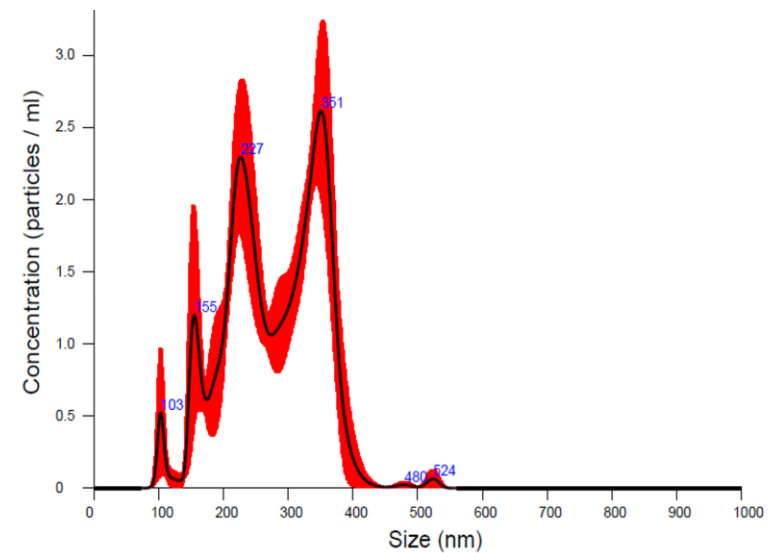
Unpublished data from **Dr. Triantafillos Liloglou**, part of the Lung Cancer Group at the University of Liverpool, UK.

- Nanosight analysis of Exosomes fractions with Exo-spin™ Midi Columns on the left and the membrane affinity spin columns method on the right

E7



E6



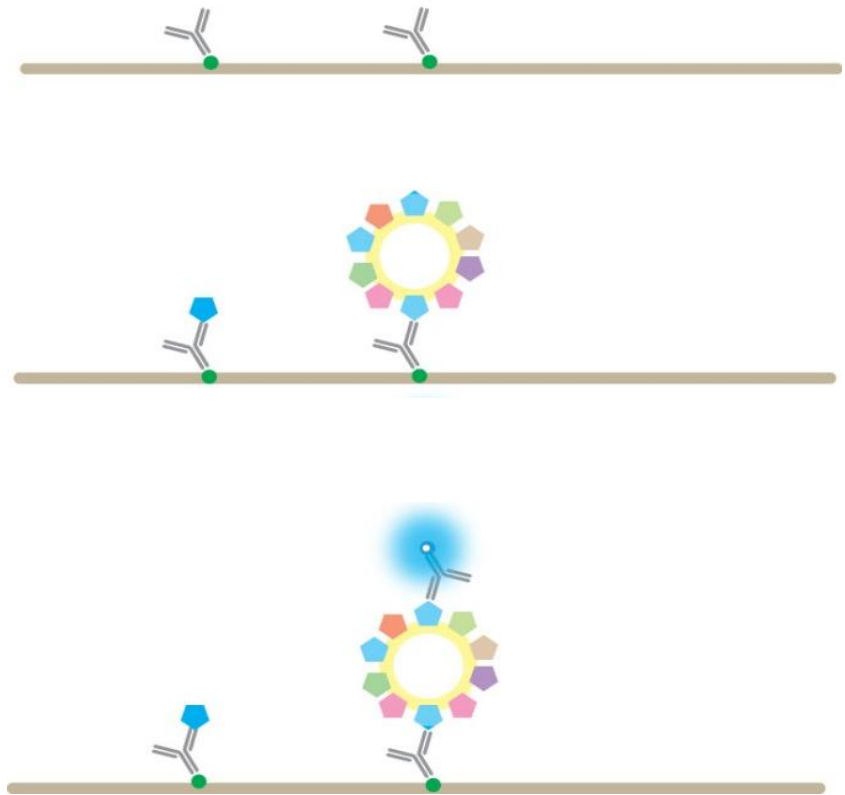
Exosome Detection Assay: TRIFic™

- **Time-Resolved Immunofluorescence assay** which utilizes Europium fluorophore
- Similar to an ELISA assay, however more specific, more sensitive and there is no enzymatic reaction
- Compatible with purified and unpurified samples
- Measurement of the abundance of transmembrane proteins generally accepted as exosome markers:
 - CD9
 - CD63
 - CD81

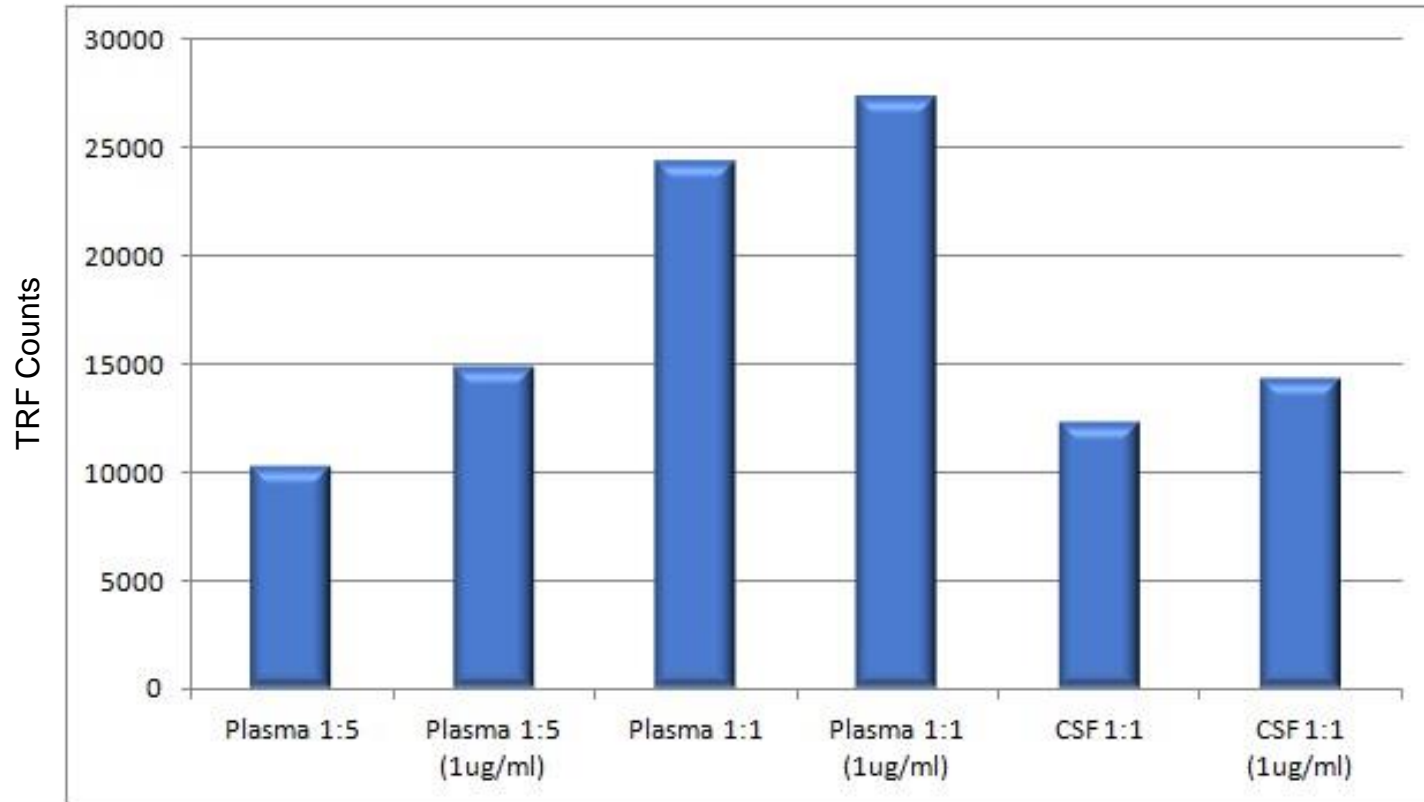


TRIFic™ Principle

- **Step 1:** Biotinylated antibody is bound to streptavidin coated assay plates.
- **Step 2:** Biological samples are added. Exosomes and any free antigen are captured by the antibody.
- **Step 3:** Europium labeled antibody is added and binds specifically to exosome antigen. The epitopes of bound monomers are already occupied and not detected. Samples are read using a time-resolved fluorescence plate reader.



TRIFic™ Analysis Data



Plasma and Cerebrospinal Fluid (CSF) samples

TRIFic™ Advantages

- **Clear and consistent data**
- Simplicity of the assay results in a high degree of **reproducibility**
- Europium is used for detection, providing a high degree of **sensitivity** (it is possible to detect ng or ug levels of protein)
- Only antigens displayed in multiple copies on a support within the sample are detectable, resulting in increased **specificity**
- Compatible with **UNPURIFIED SAMPLES**

Acknowledgments



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- Dr. Joanne Welton

Thank you!

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