

Exo-spin™ - A reliable, flexible system for isolation of exosomes from small volumes of biofluids



Laur-Alexandru Botos

Cell Guidance Systems, Babraham Research Campus, Cambridge, CB22 3AT, UK

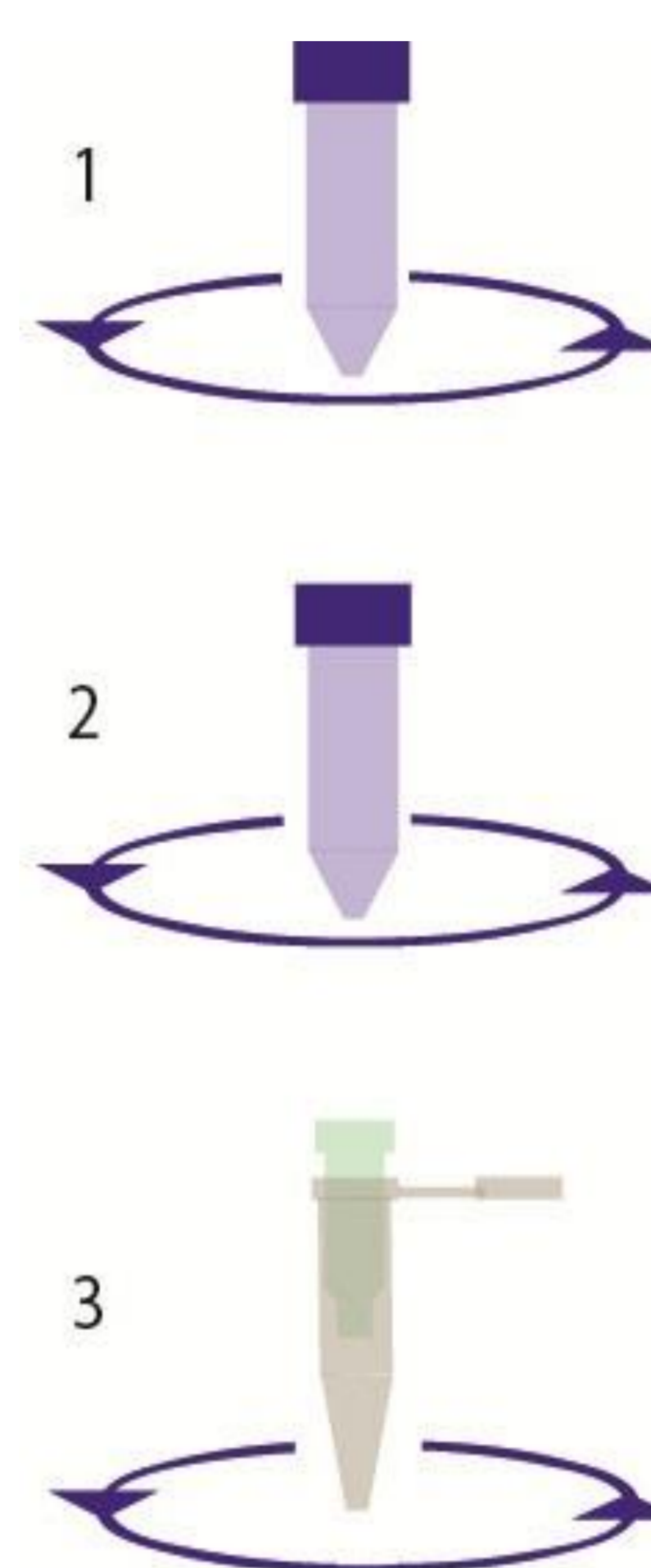
Abstract

Exosomes can pass the blood-brain barrier due to their nanoscale size. This property makes exosome research attractive for areas such as biomarker discovery for neurodegenerative diseases and also drug delivery.

To study these fields, efficient methods for isolating exosomes from small volumes of biofluids such as serum, plasma and CSF need to be identified.

Exo-spin™ exosome isolation system was compared to two other precipitation methods using serum, plasma and CSF as starting samples. Exo-spin™ method has been identified as superior. Among other factors, yield, purity as well as structural integrity of the generated samples have been analysed as part of this comparison. Analyses such as NTA, exosome protein to particle ratio, WB and TEM were used to generate comparative data. (TS Martins et al., 2018)

Mechanism

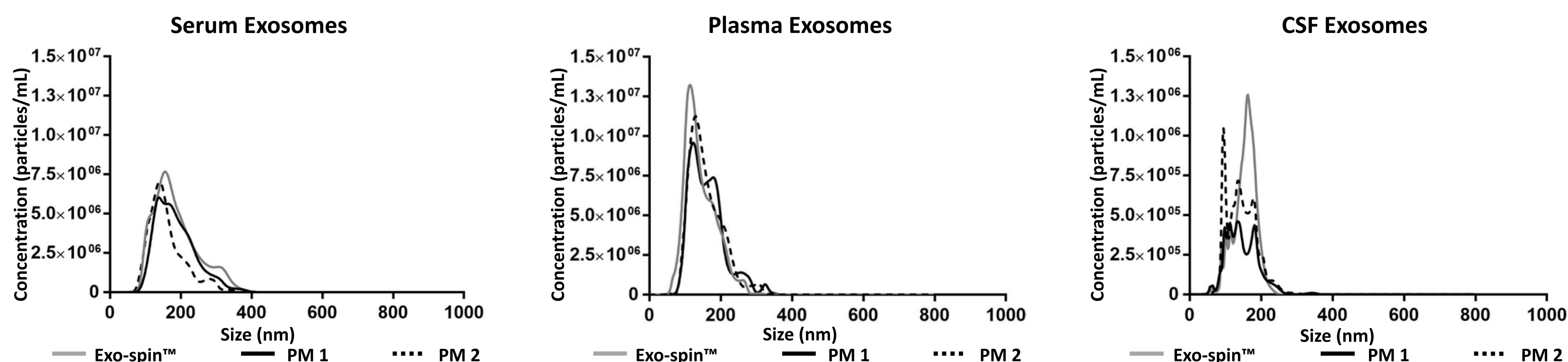


1. Remove cells and cellular debris
2. Precipitate exosomes containing pellet
3. SEC column purify exosomes

Use the QR code to access the product page on our website which also contains a link to the free access study referenced in this poster. (TS Martins et al., 2018)



Comparative Analysis



(Fig. 2 TS Martins et al., 2018)

Data determined by NTA. Each curve represents the average of 3 technical replicate measurements for each exosome isolation method and biofluid triplicate experiment. (PM = Precipitation Method)

Serum Exosomes Qualitative Comparison

	Exo-spin™	PM 1	PM 2
Yield - NTA	***	**	**
Yield - EXOCET	***	***	*
Purity – particles/protein	***	**	**

(Table 2, TS Martins et al., 2018)

*Low yield or purity **Medium yield or purity ***High yield or purity

Key Features

- Excellent yield – Even from very small volumes
- High exosome purity – Ultra-low protein and rRNA contamination
- Consistent results – Fast and easy protocol

Acknowledgement: All data presented on this poster has been published by TS Martins et al. (2018) in PLOS One journal.