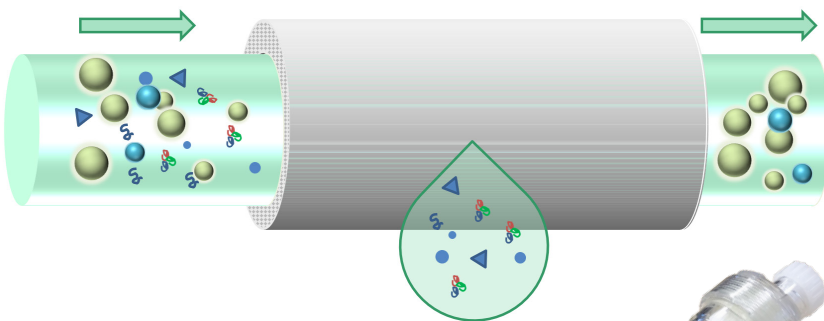


TFF-EVs: Tangential flow filter for EV purification

Efficient and fast purification of EVs and nanoparticles

Tangential flow filtration (TFF) is emerging as one of the most efficient methods for the purification of extracellular vesicles. TFF-EVs allows a rapid, reproducible and scalable purification of EVs, can be used on the lab bench for purifying small amount of samples (min 5ml) or connected with a mechanical system for purifying larger volumes.

APPLICATIONS: nanoparticle purification from conditioned media, biofluids (urine), plant extract, depletion of FBS associated EVs, removal of contaminants (unbound dye), buffer exchange.



TFF-EVs Small



TFF-EVs Large

Characteristics

- Hollow fiber filter pores: 50 nm
- Suitable for purification of small EVs and large EVs.
- Suitable for manual and mechanical use

Applications

- Fast and scalable EV purification and concentration
- Depletion of FBS from bovine EVs
- Particle buffer exchange and removal of unbound dye.

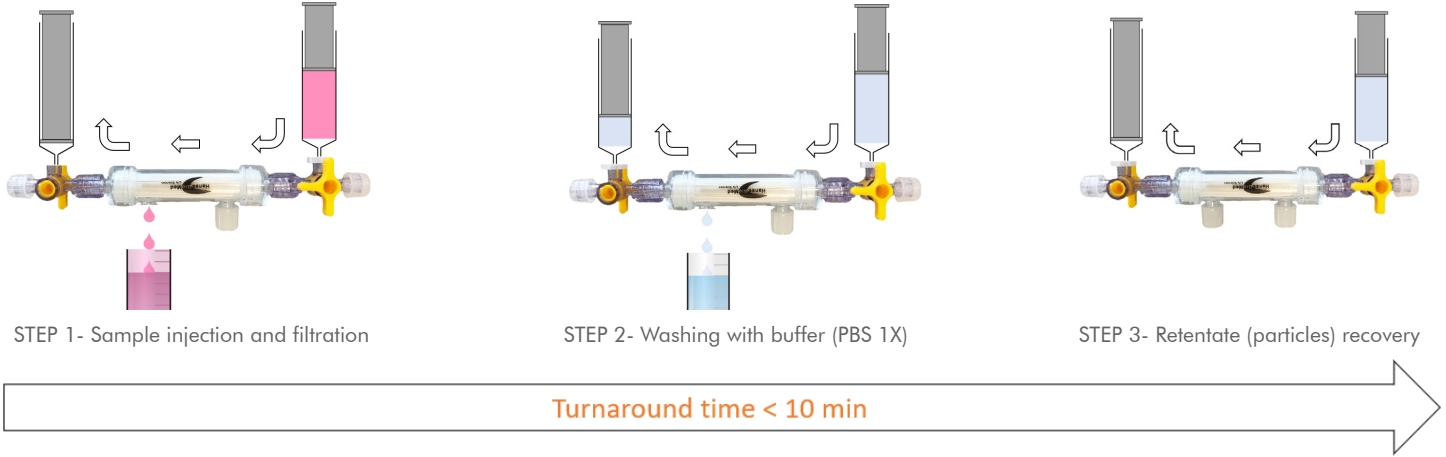
Advantages

- Easy washable
- Reusable multiple times
- Sterile

Technical features	TFF-EVs Small	TFF-EVs Large
Hollow fiber material	Polyethersulfone	Polyethersulfone
Filtering surface (sqm)	0.025	1
Fiber pore size (nm)	50 +/- 10	50 +/- 10
Cut off (kDa)	800 +/- 50	800 +/- 50
Volume range (ml)	10 - 1000	500 - 10000

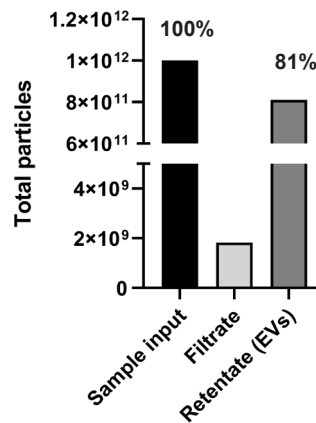
TFF-EVs and its application in Extracellular Vesicle research

TFF-EVs: bench purification workflow (manual use)



Fast purification with minimal loss of particles

1×10^{12} particles of purified EVs (HBM-PEU-100) were diluted in 20 ml of PBS 1x and then injected into TFF-EVs. Retentate containing EVs was recovered in 5 ml of PBS 1x. The particle content of the filtrate and retentate were analyzed by NTA (Zetaview, Particle Metrix).



Depletion of bovine EVs from Fetal Bovine Serum (FBS)

TFF-EVs was used to deplete the FBS from EVs of bovine origine. 50 ml of raw FBS were filtered through TFF-EVs, the filtrate contained the depleted FBS, whereas bovine EVs were recovered from the retentate in 10 ml PBS 1x buffer. All the three fractions were analyzed by NTA ((Zetaview, Particle Metrix). EV depleted FBS contains only the 1% of the total particles detected in the raw FBS.

