PRODUCT INFORMATION & MANUAL

Tangential Flow Filtration (TFF)-Large EV Isolation

NBP3-26838

Enzyme-linked Immunosorbent Assay for quantitative detection. For research use only.
Not for diagnostic or therapeutic procedures.

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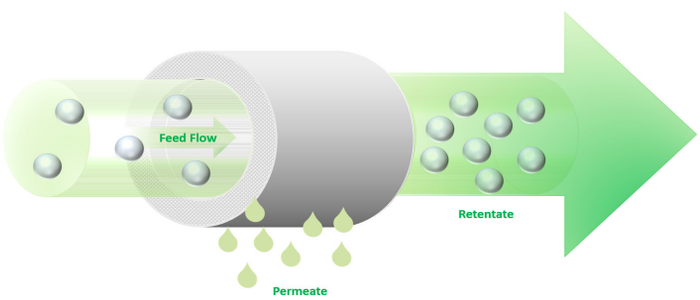
Tangential Flow Filtration (TFF)-Large EV Isolation: Tangential Flow Filtration concentrator

About TFF-EVs

TFF-EVs is a filter cartridge containing polyethersulfone hollow fibers (50 nm pores), which allows the concentration and the purification of nanoparticles and Extracellular Vesicles (> 50 nm) from different fluids, including conditioned media, human biofluids and plant extracts. Water and small molecules (< 800 kDa) pass through the hollow fiber pores, whereas nanoparticles are concentrated in the retentate.



Technical features

Technical features	Description
Hollow fiber material	Polyethersulfone
Pore size (nm)	50 +/- 10
Cut off (kDa)	800 +/- 50
Filtering surface (m2)	1.0
Internal fiber diameter (µm)	210 +/- 10
External fiber diameter (µm)	290 +/- 20
Fiber number per filter	6050 +/- 50
Cartridge internal diameter (mm)	32
Maximum transmembrane pressure (mmHg)	500
Maximum flow rate (ml/min) Conditioned media Urine viscous fluids (plasma, serum)	 115 ml/min 100 ml/min 78 ml/min
Sterilization method	e-beams sterilization

Preparation of the fluid before the EV concentration

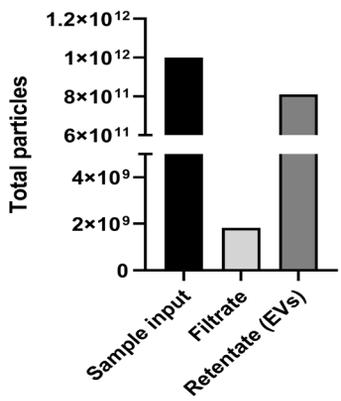
- Sample precleaning.

Fluid	Recommended	Optional
Plasma	10 min at 300 g (save super) 20 min at 1200 g (save super)	30 min at 10000 g to eliminate large particles (> 200 nm)
Serum	10 min at 300 g (save super) 20 min at 1200 g (save super)	30 min at 10000 g to eliminate large particles (> 200 nm)
Urine	10 min at 300 g (save super).	
Cell media*	10 min at 300 g (save super) 20 min at 1200 g (save super).	30 min at 10000 g to eliminate large particles (> 200 nm)

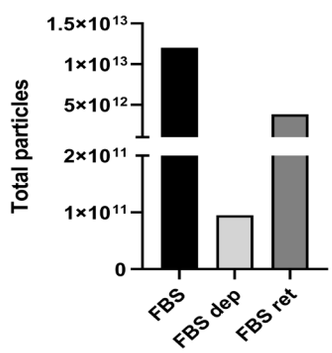
- Start the concentration process setting the pump with the flow rates indicated in the Technical feature table.

Performance data

- Particle recovery



- Depletion of bovine EVs from fetal bovine serum (FBS)



Washing procedure.

Once the concentration process is ended the filter cartridge has to be washed with a NaOH solution 0.5 N, in order to remove contaminants and particles from the hollow fibers. A final wash with aboundant MilliQ water must be performed for removing the chemical traces.

If the cartridge is used for processing complex fluids (serum, plasma) it is recommended to use a NaOH solution 1 N.

If the cartridge is used for processing fluids derived from plants and after the washing steps the fibers look colored, a solution of NaClO (0.05%) can be used.

After the washing step containing chemicals (NaOH or NaClO) a final wash with aboundant MilliQ water must be performed for removing the chemical traces.

The filter can be stored at room temperature, dried.

Filter re-sterilization.

The filter can be re-sterilized by Beta or Gamma irradiation. Not suitable for sterilization in autoclave.