

# PURE-EVs Columns



Easy EV isolation from biofluids and cell media

## Size Exclusion Chromatography columns for Exosomes and Microvesicles isolation

Size Exclusion Chromatography (SEC) is considered one of the best methods for isolating and purifying exosomes and extracellular vesicles (EVs) from different matrices. In particular, this technique is very efficient for separating exosomes from the circulating proteins and does not affect the original shape and functionality of the vesicles. HBM has developed different classes of SEC columns for EV purification: PURE-EV and miniPURE-EV are two different size of columns for EV purification from small volume (1.5 ml up to 100  $\mu$ l) of different matrices. In addition, HBM provides PURE-EV PLUS, which, together with the SEC column, includes MWCO (molecular weight cut-off) concentrators especially designed for concentrating the EV preparation. Using PURE-EVs PLUS you can get in approximately 15 minutes a concentrate EV preparation.



PURE-EVs



PURE-EVs Plus



miniPURE-EVs



miniPURE-EVs Plus

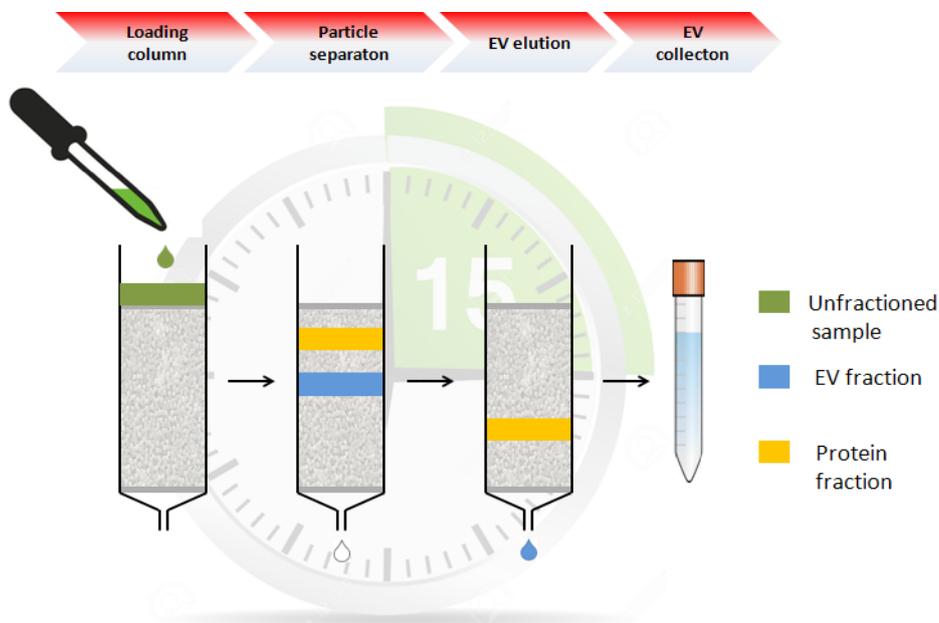
Cat. Code	Volume	Package
PURE-EV: Size Exclusion Chromatography columns		
HBM-PEV-##	1.5 ml - 500 $\mu$ l	5 or 10 Columns
miniPURE-EV: Size Exclusion Chromatography columns		
HBM-mPEV-##	500 $\mu$ l - 100 $\mu$ l	10 or 20 Columns
PURE-EV PLUS: Size Exclusion Chromatography column and MWCO concentrator		
HBM-PEV-##	1.5 ml - 500 $\mu$ l	5 or 10 Columns + 5 or 10 MWCO concentrators
miniPURE-EV PLUS: Size Exclusion Chromatography column and MWCO concentrator		
HBM-mPEV-##	500 $\mu$ l - 100 $\mu$ l	10 or 20 Columns + 10 MWCO concentrators

## Applications

- Exosome isolation from biofluids and cell media.
- Purification of pre-isolated EVs from contaminants
- Isolated exosomes are suitable for multiple analysis (NTA, ELISA, FACS, WB, EM, MS, nucleic acid extraction, etc).

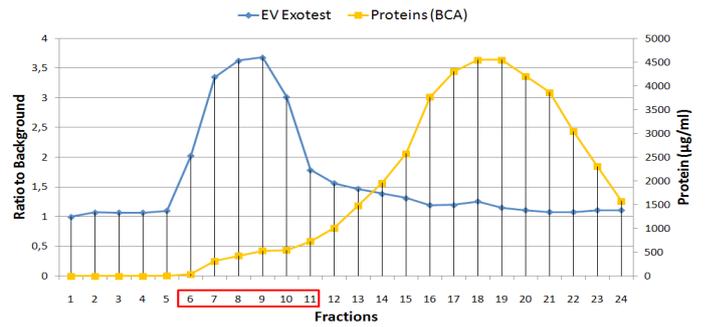
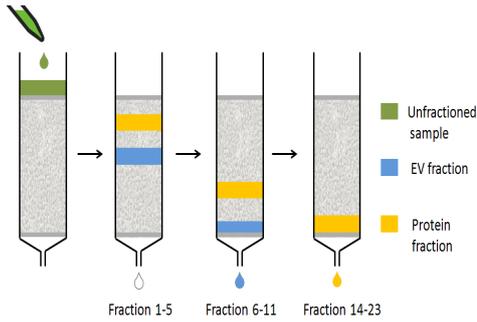
## Advantages

- Easy and fast protocol (turnaround time approximately 15 minutes).
- Isolate exosome from small volumes of sample.
- PURE-EVs PLUS includes MWCO concentrators especially designed for EV concentration.
- Reusable up to 5 times.
- Easy to store and ship (4°C).



## PURE-EVs: isolation of highly pure exosomes in approximately 15 minutes.

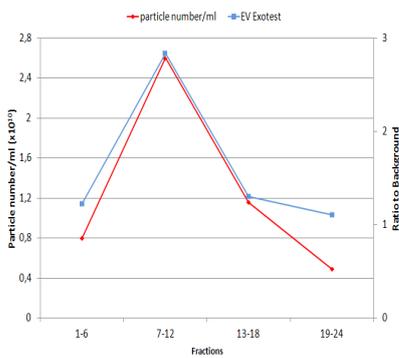
PURE-EVs column was rinsed with 1 ml of human plasma, 24 fractions (500 µl each one) have been collected and analyzed by ELISA ExoTEST™ assay and by BCA test for determining respectively the exosome and total protein content. EVs are eluted in fractions 6 - 11 (turnaround time approximately 15 min), whereas plasma circulating proteins corresponded to the fractions 14 - 24.



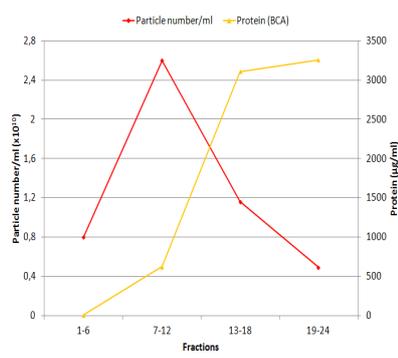
1. Exosome isolation from human plasma by PURE-EVs columns.

2. Matching of EV quantity and total protein content eluted in each single fraction. ExoTEST™ analysis shows that EVs are eluted in fractions 6-11 and successfully separated by the plasma circulating proteins (eluted in fractions 14-24). ExoTEST results expressed in ratio-to-background.

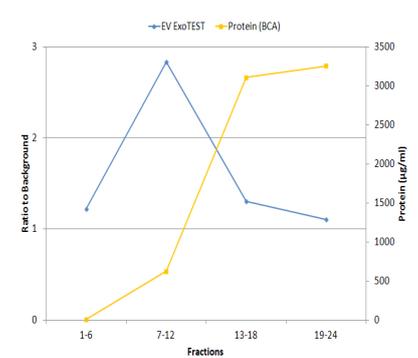
The 24 fractions were collected in 4 groups (1-6; 7-12; 13-18; 19-24) and analyzed by NTA with Nanosight. Figures 3, 4 and 5 show the correlations between the eluted fractions and the performed analysis: positive matching between ExoTEST™ results and the particles analysis by NTA (fig 3), complete separation of EV from the plasma circulating proteins (fig 4 and 5).



3. EV elution peak. ExoTEST™ vs NTA analysis



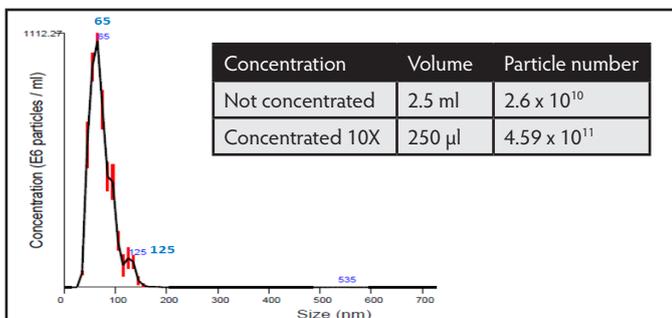
4. EV elution vs circulating protein elution. NTA analysis compared to protein BCA test



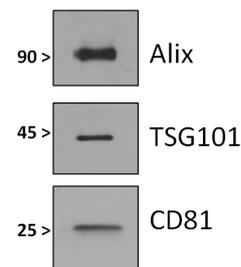
5. EV elution vs circulating protein elution. ExoTEST™ analysis compared to protein BCA test

## PURE-EVs PLUS: make your EVs suitable for multiple analyses.

PURE-EVs PLUS includes a MWCO concentrator especially designed for concentrating EVs once eluted by the SEC column. Concentrator allows concentrated EVs preparation to the level required for different analyses (western blotting, nucleic acids extraction, mass spectrometry etc).



6. NTA analysis of exosome eluted by PURE-EVs column not concentrated and concentrated 10X with MWCO concentrator.



7. WB of common exosome markers in 20 µl of concentrated EVs.