

Want to detect extracellular vesicles directly in complex samples?

Sensitive and efficient detection of extracellular vesicles using a fast dip-in assay with minimal hands-on time

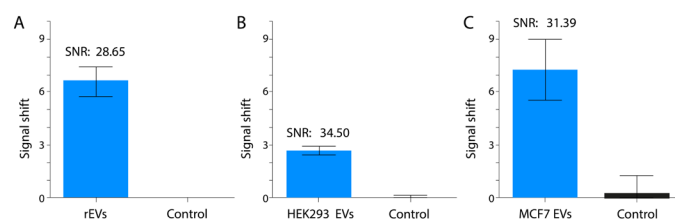
WHITE FOX streamlines the detection and quantification of extracellular vesicles (EVs) in highly heterogeneous biofluids like blood plasma or culture medium, removing the need for prior purification. This simplified but highly sensitive approach could be invaluable for biomarker or cell and gene therapy studies by shortening the time from sample to result.

As an example, WHITE FOX's dip-in sensors can be functionalized with EV-specific capture antibodies for label-free or sandwich bioassays to detect recombinant EVs (rEVs), endogenous EVs, and breast-cancer-derived EVs in complex cellular mixtures.

Highlights

- **rEVs, endogenous EVs, and disease EVs analyzed** in cell culture media or blood plasma samples.
- **Highly sensitive.** Detection limits up to 10^3 times lower than expected EV concentrations in healthy donor plasma.
- **Highly specific.** EV-marker antibody-based capture of EVs from cancer and healthy origins, with impressive signal-to-noise ratios.
- **Time-saving and bias-reducing.** No need for complex EV purification steps.
- **Peer-reviewed.**

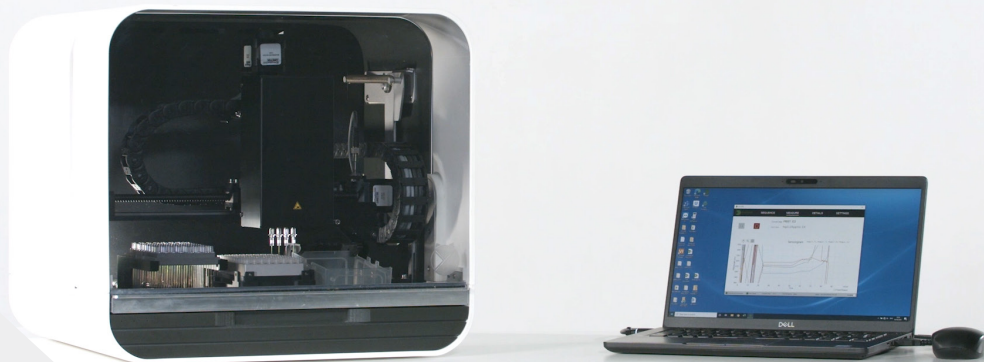
EV detection in complex biofluids



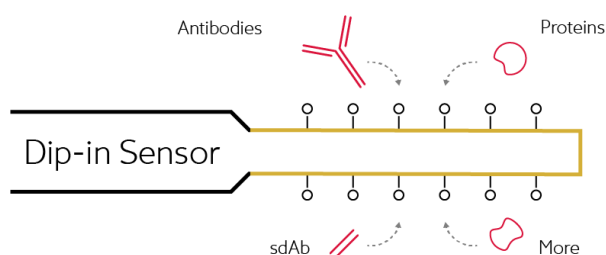
Signal shifts and signal-to-noise ratios (SNR) from (a) rEVs spiked in cell culture medium, (b) endogenous EVs from HEK293 cells in the same medium, (c) MCF7-derived breast cancer EVs spiked in 100-fold diluted blood plasma. Adapted from Yildizhan et al. (2021).

Conclusion

WHITE FOX enables highly sensitive and specific detection of EVs in complex biofluids with no prior purification or enrichment required, saving you time. With real-time monitoring, fast response time, and ease of operation, WHITE FOX has outstanding potential for EV quantification and analysis in gene and cell therapy studies and beyond.



FOx BIOSYSTEMS has developed a convenient dip-in probe configuration to study interactions between biomolecules. WHITE FOx can accurately quantify biomolecules and measure their kinetic interactions directly in complex media, something that traditional fluidics-based systems struggle to do without extensive sample processing.



The advantages of WHITE FOx:

- **Fast:** sample to result in as little as 10 minutes.*
- **Direct detection:** no prior purification of EVs necessary, even in complex biofluids.
- **Accurate:** highly comparable results with ELISA, the current routine method.
- **Relevant concentration range:** quantification at biologically relevant concentrations.
- **No fluidics.**
 - Minimal sample processing.
 - Greatly reduced cross-contamination.
- **Flexible:** sensor probes available with common surface chemistries to bind a variety of biologicals.

*when using pre-functionalized probes

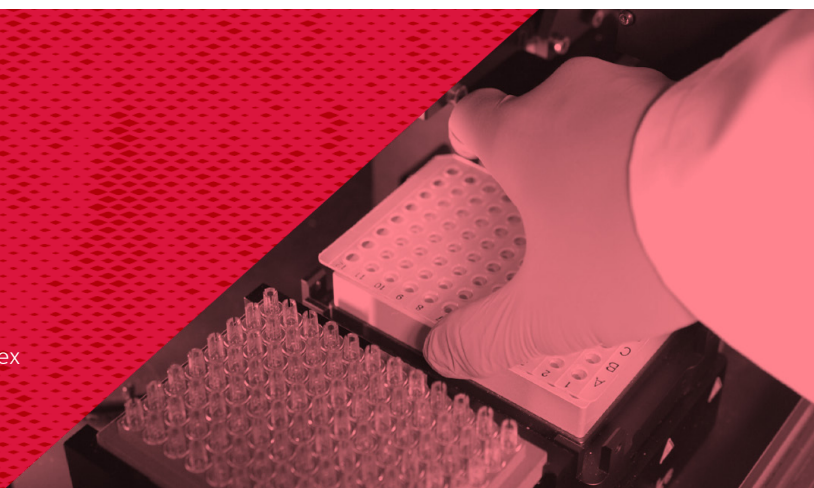


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For more details, read our white paper
 "Extracellular vesicle quantification in complex matrices."



WHITE FOx is for research use only, not for diagnostic purposes.