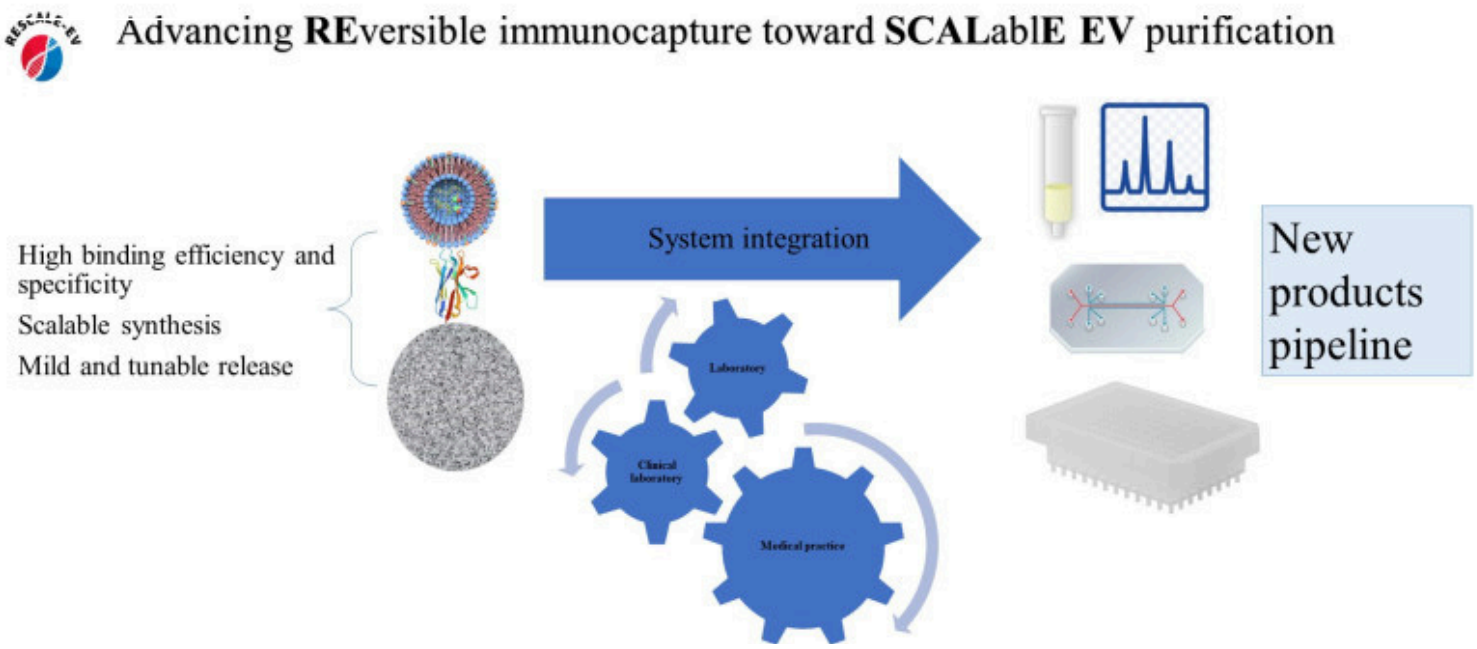
Science Fund of the Republic of Serbia

PRISMA

# Advancing REversible immunocapture toward SCALable EV purification

# NEWS & UPDATES




## Welcome to this year ' s newsletter of RESCALE-EV

We are excited to announce our latest updates, achievements, and upcoming events at our company

We published the 2 papers:

1. Researchers have introduced a novel panel of nanobodies designed for highly efficient capture of extracellular vesicles (EVs) from human plasma.This innovative approach significantly improves the specificity and recovery of EVs compared to conventional antibody-based methods. By providing cleaner and more consistent EV preparations, the nanobody panel enhances downstream analyses and strengthens the potential of EVs as reliable biomarkers for diagnostics and personalized medicine. doi: https://doi.org/10.3390/molecules30224337
2. This study presents the use of VHH-immobilized, cryogel-based immunoaffinity chromatography as an effective method for isolating extracellular vesicles (EVs). By combining the high selectivity of VHH nanobodies with the porous, fast-flow properties of cryogels, the approach enables efficient, gentle, and reproducible EV capture. The method delivers high-quality EV preparations suitable for downstream molecular analyses, positioning it as a promising tool for diagnostics, biomarker studies, and EV-based research.

doi: https://doi.org/10.3390/molecules30183677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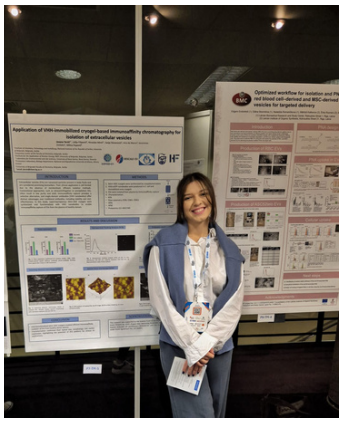
Dr. Lidija Filipović successfully defended her PhD thesis
On May 9, 2025, Dr. Lidija Filipović UBFC successfully defended her PhD dissertation titled "Purification of Extracellular Vesicles Using Immunoaffinity Methods and Their Characterization." Her work was conducted under the supervision of Dr. Milica Popović.

Dr. Lidija Filipović received the Stanka Romac Prize for the best PhD thesis in the field of Human Molecular Genetics and Biomedicine, carried out in scientific research institutions in Serbia. The award was granted by the FOSTAR Foundation for the academic year 2024/2025.



From 7–10 October 2025, researchers Lidija Filipović and Jovana Terzić from UBFC and ICTM represented the RESCALE EV Project at the 3rd MOVE Symposium held in Tartu, Estonia. The event was hosted by the Baltic Society of Extracellular Vesicles (BSEV) and organized by the European National Societies of Extracellular Vesicles (NEVS), bringing together experts from across Europe to discuss the latest advances in extracellular vesicle (EV) research.


Ph.D. candidate Nevena Zelenović successfully defended her doctoral dissertation on August 29, 2025, titled

Examination of interaction of ellagic acid's secondary metabolites (urolithins) with albumins and extracellular vesicles

This dissertation investigated the binding of urolithins and their glucuronides to serum albumins using spectroscopic techniques and molecular docking, determining fluorescence quenching mechanisms, binding constants, thermodynamic parameters, and binding sites. Additionally, methods for incorporating URO A, a representative of UROs, into extracellular vesicles were explored to enable targeted delivery and protect the compound during circulation.

Our members presented the RESCALE-EV project at the Project Hub during First SDIR-HDIR-MOKAD regional congress, held in Belgrade from October 8-10.

Prof. Dr. Milica Popović delivered a lecture at the 62nd Oncology Week within the "Scientific Projects in Serbia" session, where she presented the achievements and vision of the RESCALE-EV project. Her presentation highlighted how extracellular-vesicle-based technologies are advancing from fundamental research toward clinical translation in oncology, emphasizing biomarker development, therapeutic loading strategies and next-generation EV platforms.

The lecture showcased RESCALE EV's role in shaping future precision cancer care by harnessing vesicle biology for innovative diagnostic and therapeutic applications.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Thank you for reading this year's newsletter. Remember to stay engaged, ask questions, and bring your ideas forward.

Together, we are making our project strogner and innovative every day!