

SmartSEC™ Mini EV Isolation System for Small Volumes & Developmental Bio

MINIMAL SAMPLE REQUIREMENTS, MAXIMAL INSIGHT

SYSTEMBIO.COM/SMARTSEC-MINI

HIGHLIGHTS

- The only commercially available EV isolation kit for sample volumes as low as 10 μ L
- Great for isolating EVs from a range of biofluids
- Validated in human samples as well as model developmental biology organisms such as:
 - *Drosophila melanogaster*
 - *Planaria*
 - *Arabidopsis thaliana*
 - Mouse
 - Rat
- Delivers better purity and yield than ultracentrifugation
- Compatible with most downstream applications such as mass spectrometry, western blotting, nanoparticle tracking analysis (NTA), and transmission electron microscopy (TEM)

Explore new frontiers in EV biology

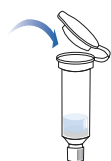
Whether it's precious clinical samples or hard-to-collect biofluids from developmental biology model organisms, researchers are increasingly challenged by the need to isolate extracellular vesicles (EVs) from quite limited sample volumes. To support these researchers, SBI has configured our powerful SmartSEC™ technology into the first commercially available kit optimized for isolating EVs from 10 – 100 μ L of biofluid (Table 1). Validated for samples from *Drosophila*, *Planaria*, and *Arabidopsis*, as well as human, mouse, and rat, the SmartSEC™ Mini EV Isolation System is ready to help you push the boundaries of EV biology.

Table 1. Recommended SmartSEC Mini input volumes

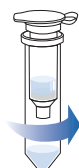
ORGANISM	BIOFLUID	INPUT VOLUME
<i>Drosophila melanogaster</i>	Hemolymph	10 μ L
<i>Planaria</i>	Cell culture	100 μ L
<i>Arabidopsis thaliana</i>	Apoplastic fluid	50 μ L
Human, mouse, rat	Serum or plasma	10 - 25 μ L

SmartSEC Mini is a proprietary chromatography-based EV isolation technology that combines all the benefits of size exclusion chromatography (SEC)—purity, yield, reproducibility, and preservation of EV integrity—with a contaminant trapping feature that overcomes the limitations of conventional SEC for fast, easy, and low sample-volume EV isolation.

Isolate EVs in just over 30-minutes



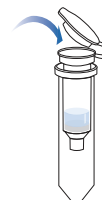
1. Load biofluid and incubate 30-min at room temperature



2. Centrifuge for 30-seconds at 500 x g



3. EVs are in the flow-through



4. OPTIONAL: Add buffer and centrifuge up to 2 times to maximize recovery



System Biosciences
Harnessing innovation to drive discoveries

See how well SmartSEC Mini isolates EVs from low volumes of biofluids across multiple species

Drosophila hemolymph MW Markers

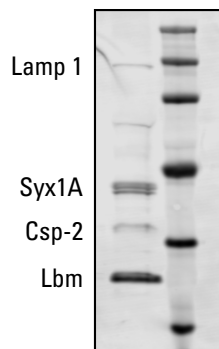


Figure 1. SmartSEC Mini provides robust isolation of EVs from *Drosophila* starting from 10 μ L of hemolymph, as demonstrated by western blot analysis of 1 μ g of equivalent protein. Common *Drosophila* exosome markers are shown next to molecular weight markers. Data courtesy of Dr. Karen Linnemannstons, University of Göttingen.

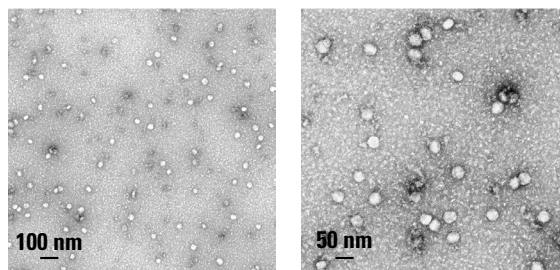


Figure 2. SmartSEC Mini provides robust isolation of EVs from 100 μ L of *Planaria neoblast* culture media. Data courtesy of Dr. Vidyanand Sasidharan, Stowers Institute for Medical Research.

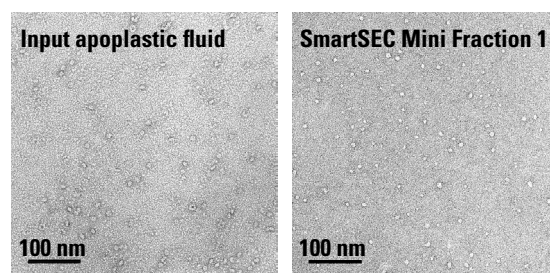


Figure 3. SmartSEC Mini provides robust isolation of EVs from 50 μ L of apoplastic fluid from *Arabidopsis thaliana*. Sample courtesy of Dr. Claudia Uhde-Stone, California State University, East Bay.

Table 2. SmartSEC Mini provides robust isolation of EVs from 10 μ L of mouse and 10 μ L human serum, as assessed by NTA.

ORGANISM	TOTAL YIELD	CONCENTRATION	PURITY
Human	33.2 μ g	2.7×10^9 particles/mL	1.7×10^7 particles/ μ g
Mouse	25.0 μ g	2.95×10^9 particles/mL	4.7×10^7 particles/ μ g

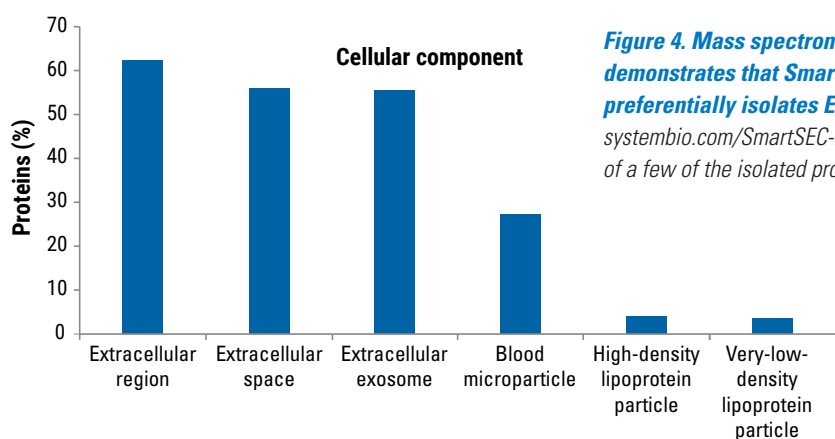


Figure 4. Mass spectrometry analysis demonstrates that SmartSEC Mini preferentially isolates EVs. Visit systembio.com/SmartSEC-Mini to see a list of a few of the isolated proteins

Building the tools that speed your research

With an eye on the latest advances, SBI finds promising technology and converts it into easy-to-use tools accessible to any researcher. Our growing exosome product portfolio is just one example. See what other ways SBI can drive your research forward—visit us at systembio.com.

See more data and order SmartSEC Mini by visiting systembio.com/SmartSEC-Mini



System Biosciences
Harnessing innovation to drive discoveries

2438 Embarcadero Way, Palo Alto, CA 94303
Toll Free: 888-266-5066 www.systembio.com
© 2020 ALL RIGHTS RESERVED. SYSTEM BIOSCIENCES