CAPTIS

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EVs360™ Multi-Omics

EVs360™ Multi-Omics Kit

DESIGNED FOR THE BENCH Fast, marker-independent enrichment of extracellular vesicles from plasma, serum, CSF, cell culture media, and other biological fluids.

Product configuration	Typical capacity
EVs360™ Multi-Omics Kit, Cat. no. L10001 · 10 rxn	1 mL plasma/serum or 5 mL cell culture media per reaction
EVs360™ Multi-Omics Kit, Cat. no. L10002 · 25 rxn	1 mL plasma/serum or 5 mL cell culture media per reaction

For Research Use Only

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Start here

A bench-friendly overview for a smooth first run.

What this kit does

Proprietary lipid nanoprobe- magnetic beads capture extracellular vesicles through interactions with vesicular membranes. This provides unbiased, pan-EV enrichment without relying on a specific surface marker. The workflow is rapid, scalable, and suitable for DNA/RNA analysis, NGS, immunoassays, and general multi-omics applications.

Why researchers use EVs360™

Fast	Flexible	Reproducible
Short capture workflow	Plasma, serum, cell culture media, and more	Magnetic handling supports consistent processing
No ultracentrifuge required	Compatible with DNA, RNA, protein, lipidomics, and metabolomics workflows	Scalable for higher throughput and automation

Before you begin: 5-point checklist

- Confirm the correct sample input, bead volume, and tube size on page 4.
- Bring the required tubes, pipette tips, magnetic rack, mixer, centrifuge, timer, and temperature-controlled equipment to the bench.
- Thoroughly resuspend Magnetic Beads L1 immediately before pipetting.
- For RNA workflows, prepare RNase inhibitor and add it to plasma/serum before capture.
- Choose your downstream extraction or lysis workflow before starting the capture.

> **KEY BRANCH POINT** Solution A is required for plasma and serum. Skip Solution A for cell culture media.

Kit contents and setup

Kit components

Component	L10001 · 10 rxn	L10002 · 25 rxn	Storage
Magnetic Beads L1	100 mg (10 mL)	250 mg (25 mL)	2–8°C
Solution A	25 mL	62.5 mL	Room temperature
Wash buffer	25 mL	62.5 mL	Room temperature

Each reaction is designed for 1 mL plasma/serum or 5 mL cell culture media.

Materials and equipment you supply

- RNase inhibitor (for RNA workflows)
- Low-binding tubes: 2 mL or 5 mL, based on sample volume
- DNA/RNA-free pipette tips
- Magnetic rack compatible with the selected tube size
- HulaMixer™ or equivalent rotator/mixer
- Heating block or water bath capable of 37°C and 55°C
- Microcentrifuge and timer

Storage and handling

The kit is shipped at room temperature. On receipt, store each component under the condition shown on its label and in the table above.

> **CONSISTENCY MATTERS** Do not use expired reagents, mix components between kit lots, or cross-contaminate reagents. Use calibrated pipettes and thermometers. Thorough bead resuspension is critical for consistent EV capture.

Recommended optional downstream kits

- Zymo Research Quick-DNA Microprep Plus Kit, cat. no. D4074, or equivalent
- Zymo cfRNA or cfDNA Serum & Plasma Kit, cat. no. R1072, or equivalent
- An EV lysis buffer appropriate for the protein assay

Prepare your sample

Plasma or serum

1	**Thaw** Remove the sample from −80°C storage. Thaw at 37°C for 5–10 minutes, or overnight in a refrigerator, until completely thawed.
2	**Homogenize** Briefly invert the tube to homogenize the sample.
3	**Optional pre-clear** Centrifuge at 500 × g for 5 minutes and transfer the supernatant to a clean tube.

RNA WORKFLOW Add RNase inhibitor to plasma or serum to a final concentration of 320 U/mL. Incubate at room temperature for 10 minutes before the binding reaction.

Cell culture media

1	**Collect** Collect conditioned cell culture media.
2	**Remove cells** Centrifuge at 300 × g for 10 minutes.
3	**Remove debris** Transfer the supernatant and centrifuge at 2,000 × g for 10 minutes.
4	**Hold cold** Keep the prepared sample on ice until capture.

AVOID UNNECESSARY VARIATION Use a consistent pre-analytical workflow across all samples in a study. Minimize repeated freeze–thaw cycles.

Choose the correct input

Match the sample type and input volume before you begin. Optimization may be needed when EV abundance differs substantially from typical samples.

Sample type	Sample input / rxn	Magnetic Beads L1	Solution A	Tube
Plasma / serum	0.5 mL	0.5 mL (5 mg)	1.25 mL	2 mL
Plasma / serum	1 mL	1 mL (10 mg)	2.5 mL	5 mL
Plasma / serum	2 mL	1.5 mL (15 mg)	2.7 mL	5 mL
Cell culture media	5 mL	1 mL (10 mg)	Not used	5 mL

REMEMBER For plasma and serum, use Solution A. For cell culture media, skip Solution A.

Capture time by intended readout

Sample	Downstream focus	Capture incubation
Plasma / serum	Protein isolation	5 minutes
Plasma / serum	RNA isolation	15 minutes
Plasma / serum	DNA isolation	30 minutes
Cell culture media	General capture	15 minutes total

HulaMixer™ starting settings

Motion	First line	Second line
Orbital	6 rpm	4 rpm
Reciprocal	79°	7°
Vibro / Pause	3°	5

Use medium speed when the protocol calls for rotation/mixing. Equivalent rotators may be used with gentle, continuous mixing.

Total EV capture procedure

Use these steps for plasma, serum, or cell culture media. Sample-specific instructions are clearly marked.

1	**Resuspend beads** Vortex Magnetic Beads L1 thoroughly immediately before use.
2	**Aliquot beads** Transfer the amount shown on page 5 to the selected low-binding tube.
3	**Magnetize** Place the tube on the magnetic rack for 15–30 seconds.
4	**Remove storage buffer** Aspirate the storage buffer completely without disturbing the bead pellet.
5	**Prepare the bead suspension** Plasma/serum: add Solution A using the volume on page 5. Cell culture media: skip Solution A.
6	**Pre-mix plasma/serum beads** For plasma/serum only, invert 5–10 times and rotate at medium speed for 3–5 minutes. Cell culture media: skip this step.
7	**Add sample** Plasma/serum: add the sample to the prepared suspension. Cell culture media: add the prepared medium directly to the washed beads from step 4.
8	**Mix** Gently invert 5–10 times.
9	**Capture EVs** Rotate at medium speed for the time selected on page 5.
10	**Remove supernatant** Place on the magnetic rack and carefully aspirate the supernatant without disturbing the EV-bound beads.
11	**Continue downstream** Retain the EV-captured beads for extraction or lysis. Optional: store the removed supernatant at −80°C for residual analysis. During aspiration, keep the tube on the magnetic rack and leave a small residual volume rather than risk removing beads.

Downstream applications

Captured EVs can be lysed directly on the beads. After lysis, place the EV–bead mixture on the magnetic rack and transfer the lysate supernatant into the chosen purification workflow.

DNA and RNA

- Use a standard commercial DNA/RNA extraction kit compatible with your assay.
- Refer to the companion EV DNA and EV RNA/miRNA isolation protocols for the recommended Zymo Research workflows.
- Use DNase/RNase-free consumables and low-binding tubes to support recovery.

Protein workflow

1	**Wash** Add 400 µL Wash Buffer, mix, place on the magnetic rack, and remove the buffer completely.
2	**Optional additional washes** Repeat the wash 2–3 times when maximum purity is needed, especially for sensitive immunoassays.
3	**Lyse** Add a suitable buffer: RIPA for general immunoblotting, 1% SDS, mild NP-40 for sensitive immunoassays, or another compatible protein extraction buffer.
4	**Incubate** Incubate on ice for 10–20 minutes. Mildly vortex every 3–5 minutes. Optional: sonicate for 5–10 seconds at a time to help dissociate EV material from the beads.
5	**Separate and collect** Place on the magnetic rack, collect the protein lysate, quantify by BCA if required, and store at −80°C.

LC–MS/MS The lysate from this kit is not recommended for LC–MS/MS. For deep proteomics, use EVs360™ Proteome-MS, SKU AR100102.

Compatible readouts

Examples include qPCR, dPCR, NGS, Western blot, Simple Western, ELISA, Olink®, NuLISA™, other immunoassays, lipidomics, and metabolomics.

Troubleshooting at the bench

Observation	Likely cause	What to try
Low downstream yield	Low EV abundance or insufficient input	Increase sample input within the recommended workflow; if needed, optimize bead amount.
Low downstream yield	Incomplete thawing or poor homogenization	Thaw completely and invert gently before use.
Low downstream yield	Beads not fully resuspended	Vortex Magnetic Beads L1 thoroughly immediately before aliquoting.
Inconsistent recovery	Inadequate mixing during capture	Confirm gentle, continuous rotation and use the recommended incubation time.
Bead loss	Pellet disturbed during aspiration or wash	Keep the tube on the magnet and aspirate slowly without touching the bead pellet.

Pre-clearance options for challenging samples

- Routine plasma/serum: 500 × g for 5 minutes.
- Sensitive assays or platelet-rich samples: 3,000 × g for 20–30 minutes.
- Optional additional cleanup: 10,000 × g for 30 minutes.

STUDY DESIGN NOTE Apply the same pre-clearance, capture time, wash count, and extraction method across comparison groups.

Short-term handling

EV-bound beads may be held temporarily at 4°C. For best results, proceed directly to downstream extraction. Avoid repeated freeze–thaw cycles.

Need support?

CONTACT CAPTIS DIAGNOSTICS Have your kit catalog number, lot number, sample type, input volume, capture time, wash count, and downstream assay available when requesting support.

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