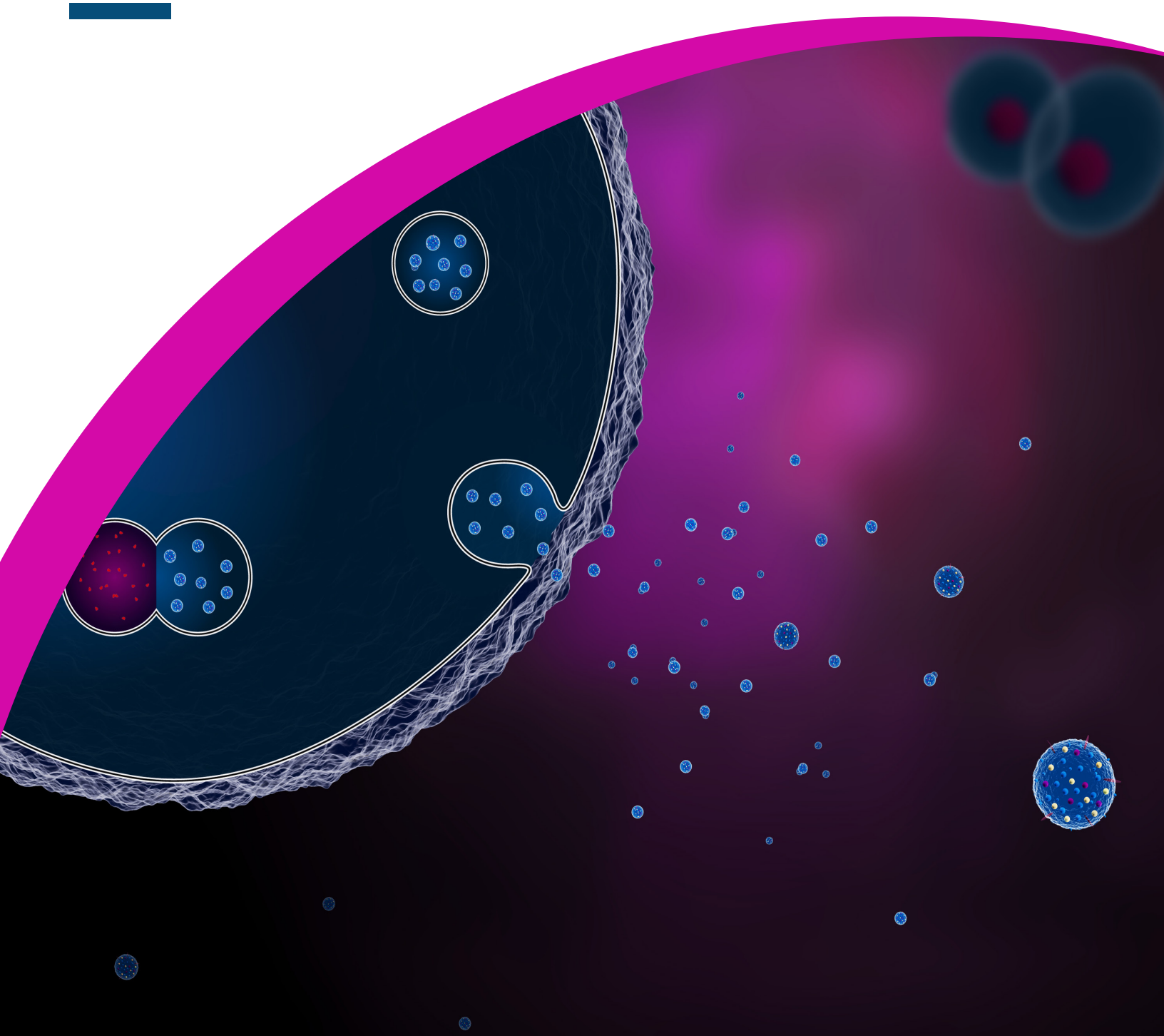
COSMO BIO USA
Inspiration for Life Science

Complete Extracellular Vesicle Research Solutions

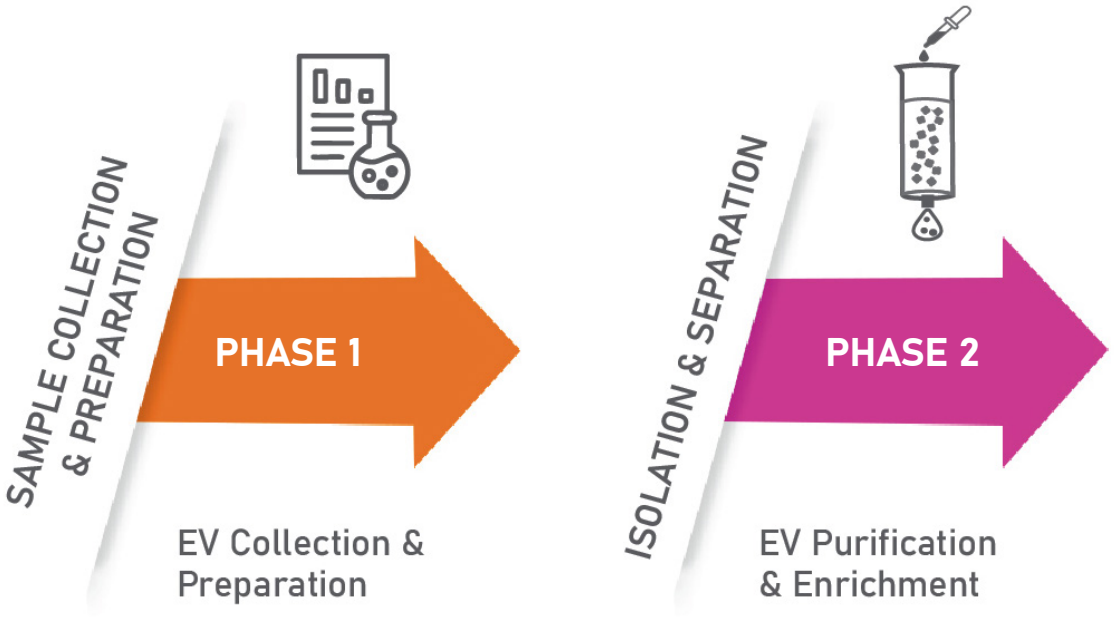
Advancing EV Science:
From Isolation to Functional Characterization



EV RESEARCH SOLUTIONS FOR SCIENTIFIC DISCOVERY

Extracellular vesicles (EV), including exosomes, microvesicles, and apoptotic bodies, are membrane-bound particles released by cells that play crucial roles in intercellular communication. They have emerged as promising biomarkers for disease diagnostics and therapeutic applications.

Offering Comprehensive Solutions for Every



SAMPLE SOURCES

Ready-to-Use EVs:

- Human Breast Milk Exosomes

Exosome Production:

- Specialized media to produce exosomes from mesenchymal stem cells

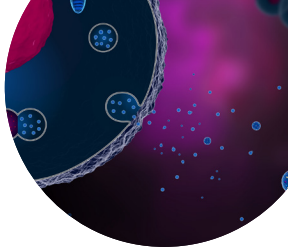
ISOLATION METHODS

Gold Standard:

- OptiPrep™ Density Gradient Media

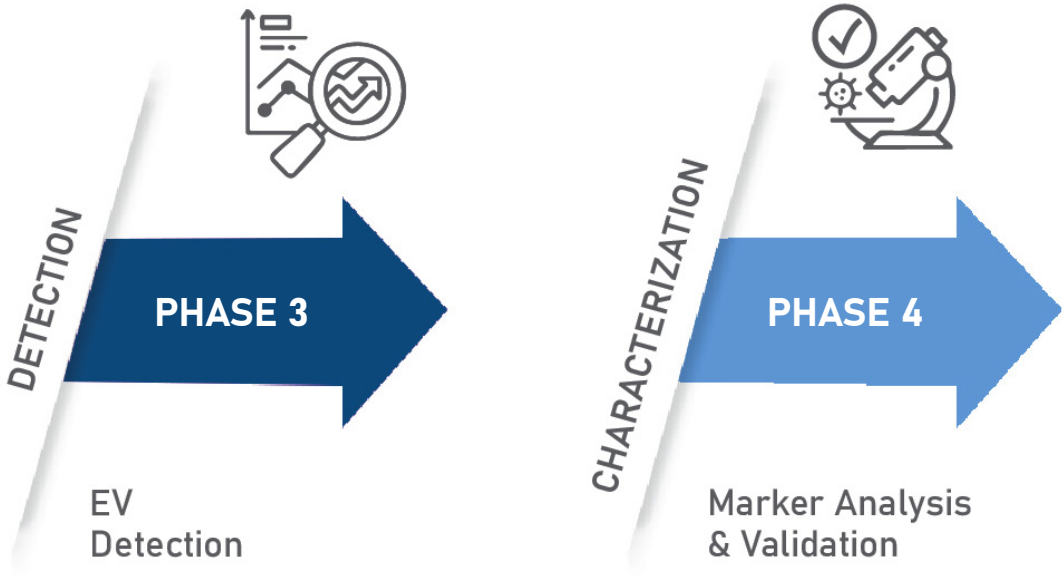
Rapid Solutions:

- EXORPTION® Precipitation Kit
- ExoTrap™ Affinity Columns



Cosmo Bio USA provides a comprehensive portfolio of EV research tools. From initial isolation to biomarker discovery, we provide the solutions you need to advance understanding of EV biology, disease mechanisms, and therapeutic applications. Our extensive portfolio serves researchers studying cancer biology, regenerative medicine, and biomarker discovery applications.

Stage of Extracellular Vesicle Research



DETECTION

Immunochromatography:

- Exorapid-qIC Kits

ELISA Kits:

- Canonical markers CD9, CD63, CD81

CHARACTERIZATION

ELISA Systems:

- Canonical Markers (CD9/CD63/CD81)
- Disease Markers (epCAM, HER2, PD-L1)

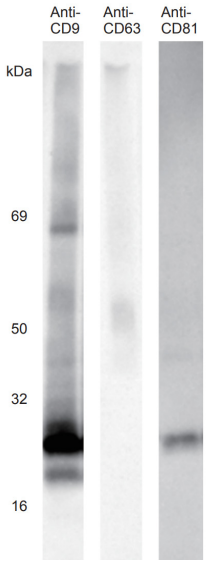
Antibodies & Proteins:

- Tetraspanins, ESCRT components
- Heat shock proteins, controls

EV SAMPLE SOLUTIONS

Breast Milk Exosome, Human

Breast Milk Exosome, Human is a high-quality, ready-to-use source of naturally derived EVs isolated from human breast milk. Rich in bioactive molecules such as proteins, lipids, and RNAs, these exosomes reflect the immunomodulatory and developmental support functions of their origin, making them ideal for applications in maternal–infant health research, cell communication studies, and exosome-based therapeutic development. Carefully purified to preserve vesicle integrity and biological activity, this product provides a consistent, physiologically relevant reagent for studying EV function in nutrition, immunity, and neonatal development.



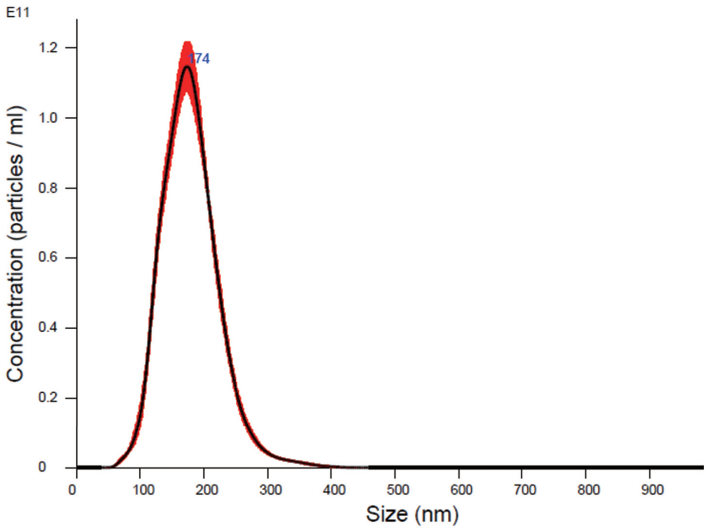


Fig. 1: Representative Western Blot analysis of Breast Milk Exosome, Human, using CD9, CD63 & CD81 monoclonal antibody.

Using 0.5 µg of protein as a sample, each protein was detected by Western Blot using Anti-CD9 monoclonal antibody (Cat. No. CAC-SHI-EXO-M01), Anti-CD63 monoclonal antibody (Cat. No. CAC-SHI-EXO-M02), and Anti-CD81 monoclonal antibody (Cat. No. CAC-SHI-EXO-M03).

Fig. 2: Particle size distribution measurement was performed using NanoSight LM10.

The Breast Milk Exosome, Human reagent was diluted 200x using PBS, then particle size distribution was measured using the NanoSight LM10. Mean particle size: 179nm. The number of particles determined: 2.3×10^{12} particles.

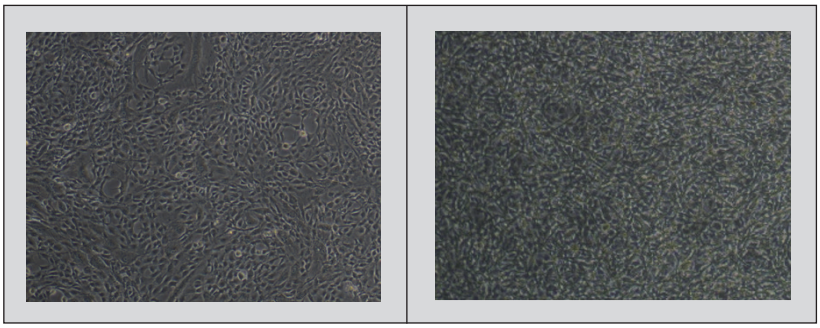
*The number of exosome particles will differ between product lots. Please consult the CoA.

ORDERING INFORMATION

PRODUCT NAME	CATALOG NUMBER	SIZE
Breast Milk Exosome, Human	CSR-EXHM100L	1 mL

KBM EV Pure, Serum-free Medium for Exosome Production

KBM EV Pure is an animal origin-free, serum-free medium for producing exosomes derived from mesenchymal stem cells (MSC). After culturing MSCs for 72 hours in cell culture medium, replace the media with KBM EV Pure and after 24-48 hours collect the cell culture supernatant to purify the exosomes that have been produced.



Immediately after medium replacement | After 48 hours of maintenance

Fig.1 Morphology of cells maintained in KBM EV Pure

KBM ADSC-5, Serum-Free Media for Mesenchymal Stem Cells

KBM ADSC-5 is an animal origin-free, serum-free culture media developed for human MSCs. KBM ADSC-5 is ideal for maintaining long-term passaging of MSC in an undifferentiated state without the need for additional supplements. This is a companion product for use with KBM EV Pure for exosome production.

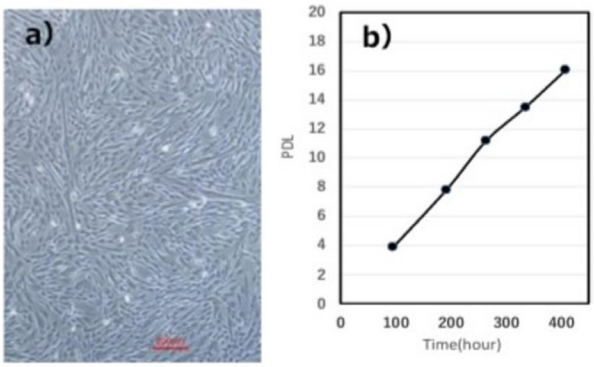


Fig. 5: Culture test data of Umbilical cord-derived MSCs
a) Cell morphology at P5
b) Population doubling level (PDL) at passage

ORDERING INFORMATION

PRODUCT NAME	CATALOG NUMBER	SIZE
KBM EV Pure, Serum-free Medium for Exosome Production	KJN-16050700	500 mL
KBM ADSC-5, Serum-Free Media for Mesenchymal Stem Cells	KJN-16030060	500 mL

EV ISOLATION SOLUTIONS

Isolation is a critical step in extracellular vesicle research and applications, as the quality and integrity of isolated EVs directly impact the reliability of downstream analyses and functional studies. The Cosmo Bio USA portfolio for EV isolation offers a variety of techniques for EV isolation to meet your unique research needs.

OptiPrep Density Gradient Media

OptiPrep™ Density Gradient Media is the gold-standard for high purity EV purification and utilizes ultracentrifugation:

- Precise density gradients with a sterile, endotoxin-tested 60% iodixanol solution.
- Efficient separation of exosomes based on buoyant density, removing protein aggregates, lipoproteins, and contaminants.
- Exceptional purity results are ideal for RNA profiling and proteomics applications.
- Not recommended for high throughput applications.

ExoTrap Exosome Isolation Spin Column Kit

ExoTrap™ Exosome Isolation Spin Column Kit offers a fast, user-friendly solution for isolating exosomes. Using an affinity-based spin column system, it is designed for protein-focused EV research:

- Selectively captures exosomes from serum, plasma, or cell culture supernatants, using immobilized CD9 antibodies.
- Preserves structural integrity for downstream applications like Western blotting, ELISA, or proteomic profiling.
- Optimized for convenience and reliability, delivers clean, functional exosome preparations in as little as 30 minutes.
- Best suited for targeted EV capture and is less scalable for high-throughput applications.

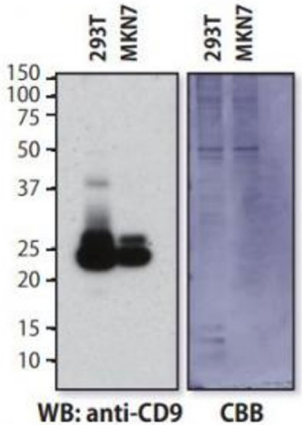


Figure Legend: Isolation of exosomes from 293T and MKN7 cell culture supernatant.

Using ExoTrap, exosome-derived protein was isolated by 50 µL SDS sample buffer and western blotting analysis.

Exorption Extracellular Vesicles Purification Kit

The EXORPTION® Extracellular Vesicles Purification Kit enables rapid and high-purity purification of EVs from biological fluids like serum, plasma, urine, or conditioned media without ultra-centrifugation. An excellent choice for rapid and routine molecular cargo profiling.

- Ideal for screening in protein and nucleic acid characterization studies.
- Reliable performance in 1-2 hours with a ready-to-use, precipitation-based kit.
- Preserves EV structure and cargo integrity with efficient, reproducible yields suitable for downstream molecular analyses.
- Delivers 10x recovery compared to traditional methods.

WHICH EV ISOLATION OR PURIFICATION PRODUCT IS RIGHT FOR YOU?

	OPTIPREP DENSITY GRADIENT MEDIA	EXOTRAP EXOSOME ISOLATION SPIN COLUMN KIT	EXORPTION EXTRA-CELLULAR VESICLE PURIFICATION KIT
TECHNIQUE	Density gradient ultracentrifugation	Affinity-based chromatography	Polymer-based precipitation
PURITY OF EVs	Very high	Selective for exosomes	High
TIME REQUIREMENTS	Hours	30 minutes	1-2 hours
EQUIPMENT REQUIREMENTS	Ultracentrifuge	Centrifuge	Microcentrifuge
DOWNSTREAM APPLICATIONS	RNA profiling, proteomics	Western blotting, mass spectrometry, PCR	Protein and nucleic acid characterization

ORDERING INFORMATION

PRODUCT NAME	CATALOG NUMBER	SIZE
OptiPrep™ Density Gradient Media	AXS-1114542	1 x 250 mL 5 x 250 mL 10 x 250 mL
ExoTrap™ Exosome Isolation Spin Column Kit	CSR-SHI-EXO-K010	10 preps
Exorption® Extracellular Vesicles Purification Kit	SAC-SCI-010	1 kit (10 columns)

EV DETECTION SOLUTIONS

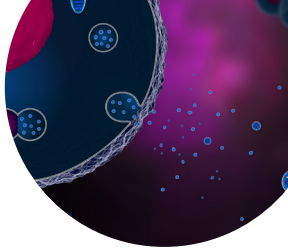
Accurate detection and quantification of extracellular vesicles is critical for characterizing populations, verifying sample purity, and assessing their biological or clinical significance. Different analytical techniques are used depending on the research or application context. Common methods include ELISA and Western blotting to detect canonical markers (e.g. CD9, CD63, CD81). Each technique offers specific advantages in sensitivity, specificity, throughput, and quantification, and are often used in combination to ensure robust and reproducible EV characterization, particularly in line with Minimal Information for Studies of Extracellular Vesicles (MISEV2018) guidelines.

Exorapid-qIC Immunochromatographic Kits for Rapid Detection of Extracellular Vesicles

The Exorapid-qIC Immunochromatographic Kits are a fast, user-friendly tool designed for the rapid semi-quantitative detection of exosomes in biological samples. Utilizing immunochromatography with antibodies against key tetraspanins (CD9, CD63 and CD81), the kits enable reliable EV characterization in just 45 minutes with no specialized equipment or lengthy protocols required.

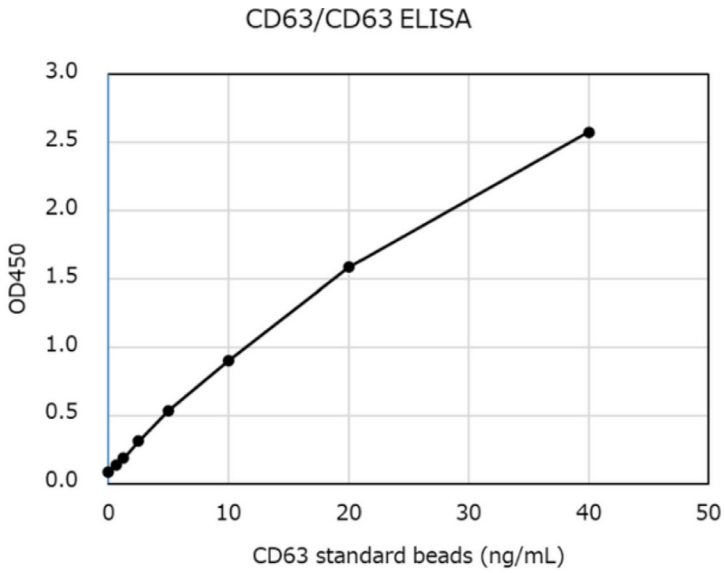
ORDERING INFORMATION

PRODUCT NAME	CATALOG NUMBER	SIZE
Exorapid-qIC Immunochromatographic Kit (CD9, CD63, CD81 set)	DNT-EXO-K123	1 kit (6 tests x 3)
Exorapid-qIC Immunochromatographic Kit (CD9)	DNT-EXO-K01	1 Kit (40 tests)
Exorapid-qIC Immunochromatographic Kit (CD63)	DNT-EXO-K02	1 Kit (40 tests)
Exorapid-qIC Immunochromatographic Kit (CD81)	DNT-EXO-K03	1 Kit (40 tests)



Exosome ELISA Kits

Cosmo Bio USA offers a comprehensive portfolio of high-sensitivity sandwich ELISA kits designed for the quantitative detection of exosomes. Targeting co-expression of key exosomal markers (CD9, CD63, CD81, CD90, and disease-relevant proteins like EpCAM, HER2, and PD-L1) these kits enable precise measurement of total or tumor-specific EV populations in biological fluids such as serum, plasma, or cell culture media.



Standard curve for the CD63/CD63 Exosome ELISA Kit (Human), cat. no. HAK-HEK6363-1.

ORDERING INFORMATION

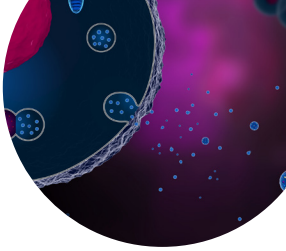
PRODUCT NAME	CATALOG NUMBER	SIZE
CD9/CD63 Exosome ELISA Kit	CSR-EXH0102EL	1 Kit
CD9/CD9 Exosome ELISA Kit (Human)	HAK-HEL0909-1	1 Kit
CD9/CD9 Exosome ELISA Kit (Canine)	HAK-DEL0909-1	1 Kit
CD63/CD63 Exosome ELISA Kit (Human)	HAK-HEL6363-1	1 Kit
CD63/CD63 Exosome ELISA Kit (Canine)	HAK-DEL6363-1	1 Kit
CD81/CD81 Exosome ELISA Kit (Human)	HAK-HEL8181-1	1 Kit
CD90/CD63 Exosome ELISA Kit (Human)	HAK-HEL9063-1	1 Kit
EpCAM/CD9 Exosome ELISA Kit (Human)	HAK-HELEPCAM09-1	1 Kit
HER2/CD9 Exosome ELISA Kit (Human)	HAK-HELHER209-1	1 Kit
PD-L1/CD9 Exosome ELISA Kit (Human)	HAK-HELPDL109-1	1 Kit
CD147/CD9 Exosome ELISA Kit (Human)	HAK-HEL14709-1	1 Kit

EV CHARACTERIZATION SOLUTIONS

According to the MISEV2018 guidelines established by the International Society for Extracellular Vesicles (ISEV), a comprehensive EV characterization strategy should include the detection of multiple classes of markers: transmembrane or membrane-associated proteins, cytosolic proteins with membrane-binding properties, and confirmation of the absence of negative markers that indicate contamination from intracellular organelles.

Characterize Your EV Markers

Canonical Markers	Biogenesis/ Trafficking Markers	Cell-of-Origin / Lineage Specific Markers
• CD63	• RhoA	• CD11b
• CD81	• RAB27A	• CD14
• CD9	• RAB27B	• ICAM-1 (CD54)
• CD82	• RAB11	• S100A9
• CD151	• RAB35	• TMEM119
• TSG101	• VPS4A/B	• P2RY12
• ALIX (PDCD6IP)	• CHMP4B	• GAD1
• Syntenin (SDCBP)	• VPS37B	• GAD2
• Flotillin-1 (FLOT1)	• MVB12A	• CHAT
• HSP70 (HSPA8)	• SMPD2	• GPM6A (M6a)
• HSP90	• MVB12B	• L1CAM
		• GFAP
		• SLC12A1
		• EpCAM
		• CD90/Thy1
View all products	View all products	View all products



Cosmo Bio USA has an extensive portfolio of Antibodies, Proteins, Peptides, and ELISA kits for detecting a variety of EV markers via western blotting, flow cytometry, ELISA and or mass spectrometry. Below, we outline the spectrum of EV markers and encourage you to visit our website to view all the reagents and kits that are available for your markers of interest.

with the Cosmo Bio USA Portfolio

Functional/Stress/ Tumor-associated Cargo Markers

- Annexin A2 (ANXA2)
- Galectin-3 (LGALS3)
- AHNAK
- AHNAK2
- MFG-E8
- PD-L1
- TGF-beta
- FASN
- ITIH4
- IDH1
- IDH2
- UQCRC1
- UQCRC2
- LRRC15

View all products

Contamination/ Negative Markers

- Calnexin (CAXN)
- GM130 (GOLGA2)
- Actin (ACTB)
- VIM
- HSP90B1 (GRP94)
- Cytochrome c (CYCS)
- ATP5A1
- Lamin B1

View all products

COSMO BIO USA
Inspiration for Life Science

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