

MBL RUO LETTER

MBL

vol.3

Feb. 2018



- ① **Highlight Product: ExoCap™ Product** – Research tools for extracellular vesicles -
- ② **Exhibition booth at Taiwan on November**
- ③ **Exhibition / Webinar on March**



2018 is a big year!
CELEBRATE MBL 50th ANNIVERSARY!!!

In the past year thank you for your support with us. And looking forward to work with you again in 2018.

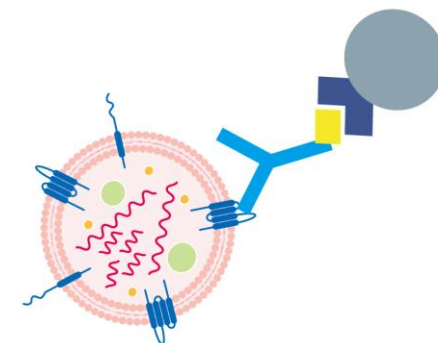
①Highlight Product:

ExoCap™ Product - Research tools for extracellular vesicles -



Product lineup of ExoCap™

- **Ultracentrifugation/Storage Booster (USB)**
Improving exosome recovery rate from cell culture supernatant by ultracentrifugation
Improving stability at 4C storage for purified exosomes
- **Streptavidin Kit**
- **Streptavidin CD9/CD63/CD81 Set**
Purer exosome Isolation for your target molecule and assay
- **ExoDiluent for Immunoassay**
Dilution buffer for exosome immunoassay
- **Nucleic Acid Elution Buffer**
Nucleic acid isolation for exosomes
- **Antibodies for human exosomal common markers**
Monoclonal antibodies for common exosomal markers



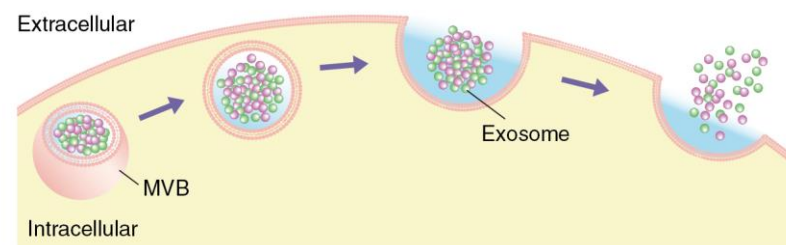
*ExoCap™ is trademark of JSR

What are exosomes?

- ✓ Exosomes are extracellular vesicles (EVs) secreted from most of cells, found in the various body fluids, serum, plasma, saliva, urine, breast milk.
- ✓ Exosomes consist of lipid bilayer membranes, approximately from 40nm to 100nm in diameter, contain several proteins, nucleic acid such as microRNA, mRNA and DNA.
- ✓ In recent years, it is suggested that exosomes are a biomarker for **cancer, diabetes, neurological diseases and various diseases and also are expected to become drug delivery system.**
- ✓ Exosomes bear specific protein markers of the endosomal pathway, such as tetraspanins (CD63, CD9 and CD81), heat shock proteins (HSP70) and EpCAM depending on their cellular origin.

Access the web site for the detail of exosomes!

<https://www.mblbio.com/bio/g/product/exosome/article/exosome.html>



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Method of Exosome Isolation

	Ultracentrifugation method	Polymer-based precipitation method	Immunoaffinity method
Method	Exosome isolation method utilizing difference of density	Exosome precipitation method using polymer	Immunoaffinity method using magnetic beads-conjugated antibodies against exosomal markers
Advantage	<ul style="list-style-type: none"> ✓Conventional, standard method ✓Stable for large scale ✓Absence of selection bias of surface marker 	<ul style="list-style-type: none"> ✓Recovery of Exosome in a short period of time ✓No specific device, instrument is required 	<ul style="list-style-type: none"> ✓Selectable of high purity of surface specific marker ✓High recovery rate
Disadvantage	<ul style="list-style-type: none"> ✓Expensive initial investment ✓Low recovery rate ✓Non-selectable 	<ul style="list-style-type: none"> ✓Many contaminants with poor purification ✓Need to select the optimal reagents depending on the sample types 	<ul style="list-style-type: none"> ✓Potential for selection bias of surface marker ✓Unsuitable for large scale
MBL products	<ul style="list-style-type: none"> ✓ExoCap™ Ultracentrifugation/ Storage Booster (USB) *For higher recover rate than ultracentrifugation method! 	—	<ul style="list-style-type: none"> ✓ExoCap™ Streptavidin Kit ✓Biotinylated Antibody ✓ExoCap™ Streptavidin CD9/CD63/CD81 Set

① Highlight Product:

ExoCap™ Product - Research tools for extracellular vesicles -

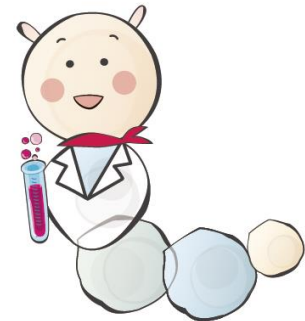
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Key words of ExoCap™ products

- Liquid biopsy
- Biomarker
- miRNA

Target area of ExoCap™ products

- Cancer
- Diabetes
- Liver disease
- Neurological
- Drug delivery system



① Highlight Product: ExoCap™ Product - Research tools for extracellular vesicles -

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Sales promotion materials

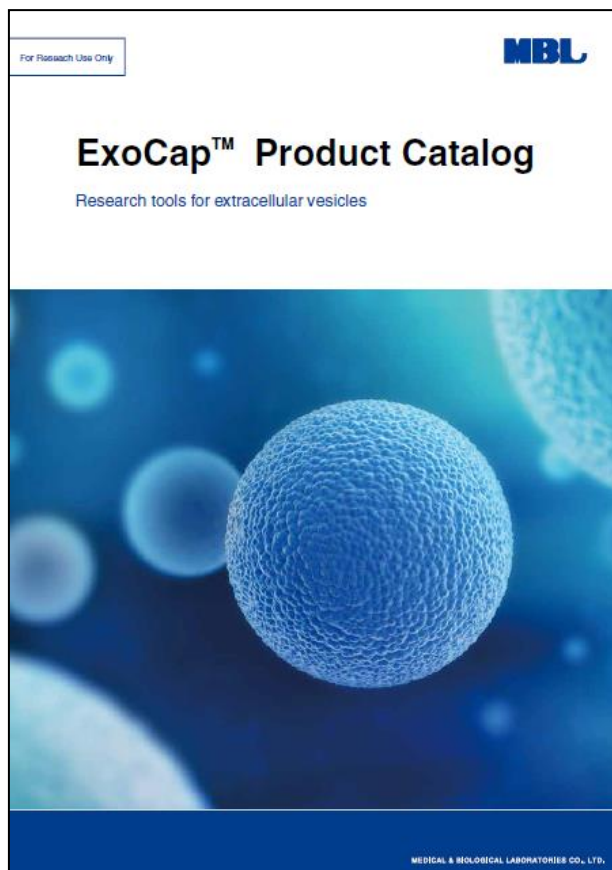


Table of contents	
What are exosomes?	P.2
ExoCap™ Ultracentrifugation/Storage Booster (ExoCap™ USB)	P.3
User Application Note	P.5
ExoCap™ Streptavidin Kit	P.7
ExoCap™ Streptavidin CD9/CD63/CD81 Set	P.9
ExoDiluent for Immunoassay	P.11
ExoCap™ Nucleic Acid Elution Buffer	P.12
Antibodies for human exosomal common markers	P.13
Related Products	P.15

Product lineup	
Improving exosome recovery rate from cell culture supernatant by ultracentrifugation ● ExoCap™ Ultracentrifugation/Storage Booster P.3	
Purer exosome isolation for your target molecule and assay ● ExoCap™ Streptavidin Kit P.7	
Improving stability at 4°C storage for purified exosomes ● ExoCap™ Ultracentrifugation/Storage Booster P.3	
Monoclonal antibodies for common exosomal markers ● Antibodies for human exosomal markers P.13 - Anti-CD9 mAb - Anti-CD63 (LAMP-3) mAb - Anti-CD81 (TAPA1) mAb Diels, FITC, ALP labeled antibodies are also available. ● ExoDiluent for Immunoassay P.11 Dilution buffer for exosome immunoassay	
Nucleic acid isolation for exosomes ● ExoCap™ Nucleic Acid Elution Buffer P.12	

Catalog is available.
Ask us for the editable
PDF file!



http://ruo.mbl.co.jp/bio/e/literature/pdf/149106ExoCap_Product_Catalog.pdf

① Highlight Product: ExoCap™ Product - Research tools for extracellular vesicles -



Product information

[Kit & Reagent]

Code No.	Description	Size
MEX-USB	ExoCap Ultracentrifugation/Storage Booster	50 mL
MEX-SA	ExoCap Streptavidin Kit	1 kit
MEX-SA123	ExoCap Streptavidin CD9/CD63/CD81 Set	1 set
MEX1001	ExoDiluent for Immunoassay	50 mL
MEX-E	ExoCap Nucleic Acid Elution Buffer	20 assays

[Antibody]

Code No.	Description	Size
MEX001-12	Anti-CD9 mAb-ALP	50 uL
MEX001-3	Anti-CD9 mAb	100 ug/100 uL
MEX001-4	Anti-CD9 mAb-FITC	50 ug/100 uL
MEX001-6	Anti-CD9 mAb-Biotin	50 ug/50 uL
MEX001-12	Anti-CD9 mAb-ALP	50 uL
MEX002-3	Anti-CD63 (LAMP-3) mAb	100 ug/100 uL
MEX002-4	Anti-CD63 (LAMP-3) mAb-FITC	50 ug/100 uL
MEX002-6	Anti-CD63 (LAMP-3) mAb-Biotin	50 ug/50 uL
MEX002-12	Anti-CD63 (LAMP-3) mAb-ALP	50 uL
MEX003-3	Anti-CD81 (TAPA1) mAb	100 ug/100 uL
MEX003-4	Anti-CD81 (TAPA1) mAb-FITC	50 ug/100 uL
MEX003-6	Anti-CD81 (TAPA1) mAb-Biotin	50 ug/50 uL
MEX003-12	Anti-CD81 (TAPA1) mAb-ALP	50 uL
MEX004-6	Anti-CD326 (EpCAM) mAb-Biotin	50 ug/50 uL

① Highlight Product:

ExoCap™ Product - Research tools for extracellular vesicles -

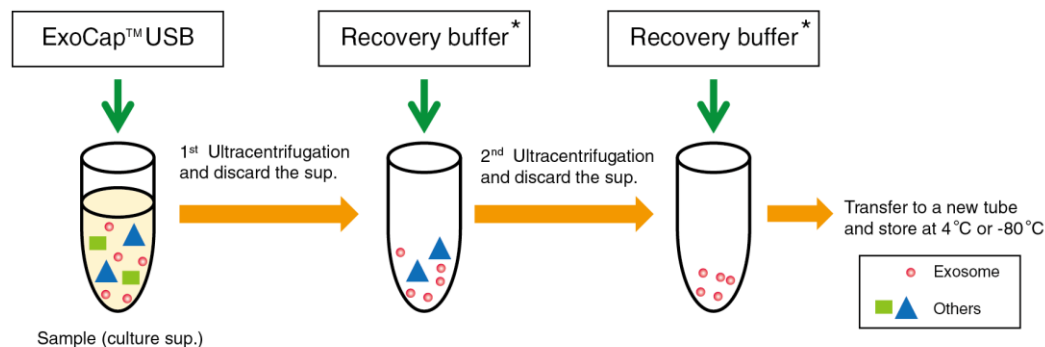
Ultracentrifugation/Storage Booster (USB) [#MEX-USB]

- Features and benefits

- ✓ Improve the recovery rate of exosomes from cell culture supernatant using ultracentrifugation
- ✓ Increase stability using low temperature storage of purified exosomes

- Special notes

- ✓ Post “User application note of USB” on page 5 of catalog



*Recovery buffer : ExoCap™ USB : Ultrapure water=1 : 9

<https://www.mblbio.com/bio/g/product/exosome/pickup/usb.html>

① Highlight Product:

ExoCap™ Product - Research tools for extracellular vesicles -

Streptavidin Kit [#MEX-SA]

Streptavidin CD9/CD63/CD81 Set [#MEX-SA123]

- Features and benefits

- ✓ Flexible use of biotinylated antibodies to target exosomes
- ✓ Lower non-specific binding by new "streptavidin magnetic beads" and buffers
- ✓ Better yield than competitor magnetic beads
- ✓ Easy to use

- Special notes

- ✓ #MEX-SA123 is combination item by "Streptavidin Kit" and "Biotinylated CD9/CD63/CD81 antibodies. All in one!"

ExoCap™ Streptavidin Kit

- Streptavidin Magnetic Beads 2 mL
- Washing/Dilution Buffer 60 mL
- Treatment Buffer 30 mL
- User manual



Biotinylated antibodies against the exosome surface antigens (CD9, CD63, and CD81)

Exosome CD9/CD63/CD81 mAb Set-Biotin

- Anti-CD9 mAb-Biotin (10 µg/50 µL)
- Anti-CD63 (LAMP-3) mAb-Biotin (10 µg/50 µL)
- Anti-CD81 (TAPA1) mAb-Biotin (10 µg/50 µL)
- User manual

<https://www.mblbio.com/bio/g/product/exosome/pickup/exocap-sa-kit.html>

<https://www.mblbio.com/bio/g/product/exosome/pickup/exocap-streptavidin-set.html>

① Highlight Product:

ExoCap™ Product - Research tools for extracellular vesicles -



ExoDiluent for Immunoassay [#MEX1001]

- Features and benefits

- ✓ Improve the signal, signal-to-noise ratio and dilution linearity of ELISA/CLEIA using blood samples.

<https://www.mblbio.com/bio/g/product/exosome/pickup/ExoDiluentforImmunoassay.html>

Nucleic Acid Elution Buffer [#MEX-E]

- Features and benefits

- ✓ Enable to isolate nucleic acids from extracellular vesicles in one tube or in two tubes separately
- ✓ High quality, high yield
- ✓ Eco-friendly



<https://www.mblbio.com/bio/g/product/exosome/pickup/nucleic-acid-elution-buffer.html>

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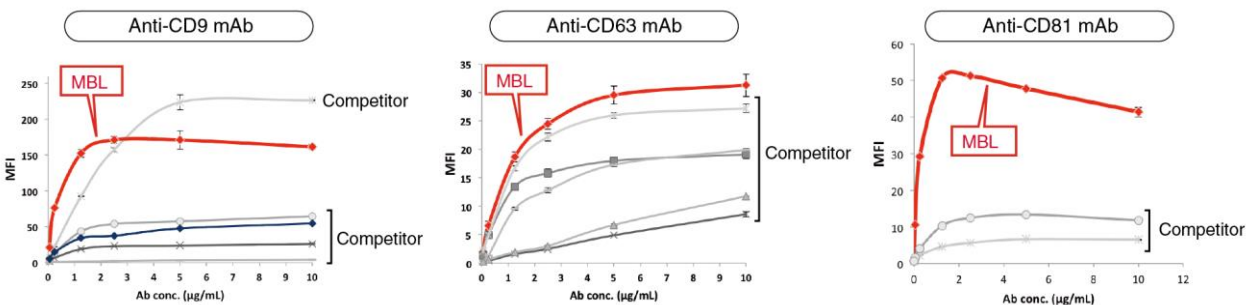
Antibodies for human exosomal common markers [#MEX00*-.**]

- Features and benefits

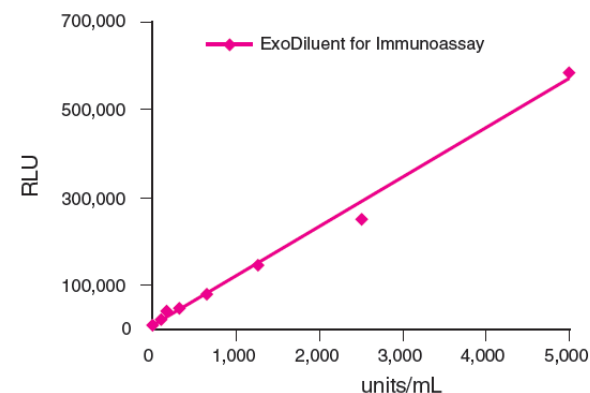
- ✓ Biotinylated antibodies are against CD9, CD63, CD81, and EpCAM.
- ✓ Use with the Exocap™ Streptavidin Kit for isolation of exosomes.
- ✓ Also suitable for Flow cytometry, Sandwich ELISA and CLEIA.

[Flow cytometry]

[SwCLEIA]



Reactivity was compared to that of products of other companies using flow cytometry (HeLa cells)



Sample: HT29-derived exosomes prepared by ultracentrifugation
Capture Ab: Anti-CD9 mAb (MEX001-3)
Detector Ab: Anti-EpCAM mAb-Biotin (MEX004-6)

<https://www.mblbio.com/bio/g/product/exosome/pickup/high-performance-antibody.html>

Exhibition booth at Taiwan on November

Taiwan - Japan Joint Meeting on Bioimaging for Young Researchers

MBL



We mainly focused on our original fluorescent products and provided Fluoppi presentation by our R&D team in the joint meeting. Many customers were interested in Fluoppi.

To find out about Fluoppi, click [here](#).

*Any of our fluorescent products must have the license agreement. Ask us for more information.



Beautiful view in Taiwan!

Exhibition / Webinar on March

Presented by MBL or MBL Beijing

MBL

2018 Seminar on Exosomes and Diseases

Date: March 23rd – 24th

Place: Shanghai, CHINA

http://meeting.bioon.com/2018Exosomes?_token=zuixinhuiyi

ExoCap Webinar

Date: March 13th

If you are interested, please contact MBLB! info@bio-med.com.cn



MEDLAB

Date: February 5th – 8th

Place: Dubai, UAE

<https://www.medlabme.com/en/home.html>