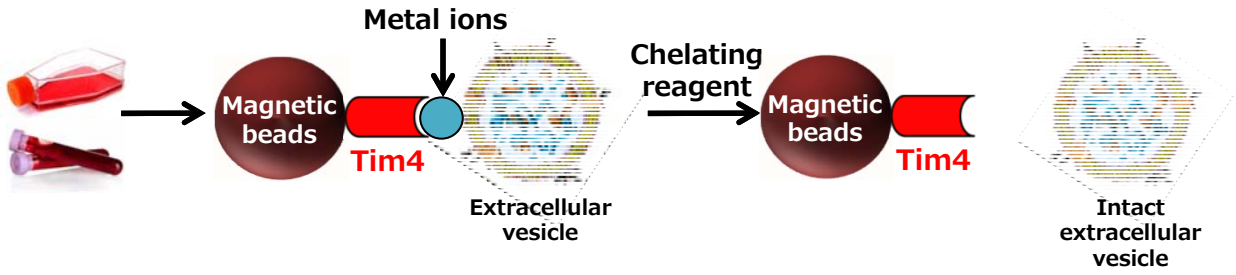
FUJIFILM
Value from Innovation

Wako

MagCapture™ Exosome Isolation Kit PS Ver.2

A novel affinity-based method for phosphatidylserine (PS) on the surface of extracellular vesicles.



Extracellular vesicles (EVs), also known as exosomes, are captured by PS-binding proteins and metal ions, and then eluted with a chelating reagent.

Features

- Adopts a new affinity method (PS affinity method)
- Allows isolation of EVs with higher yield and higher purity than ultracentrifugation
- Enables the elution of intact EVs, that can be used for various applications.
- Easy operation with magnetic beads.
- No ultracentrifugation is required.

Kit Components

	2 tests	10 tests
Biotin Capture Magnetic Beads	120 µL	600 µL
Biotin-labeled Exosome Capture	20 µL	100 µL
Exosome Immobilizing / Washing Buffer (10×)	5 mL	25 mL
Exosome Binding Enhancer (500×)	300 µL	1500 µL
Exosome Elution Buffer (10×)	300 µL	1500 µL
Reaction Tubes	4 tubes	22 tubes

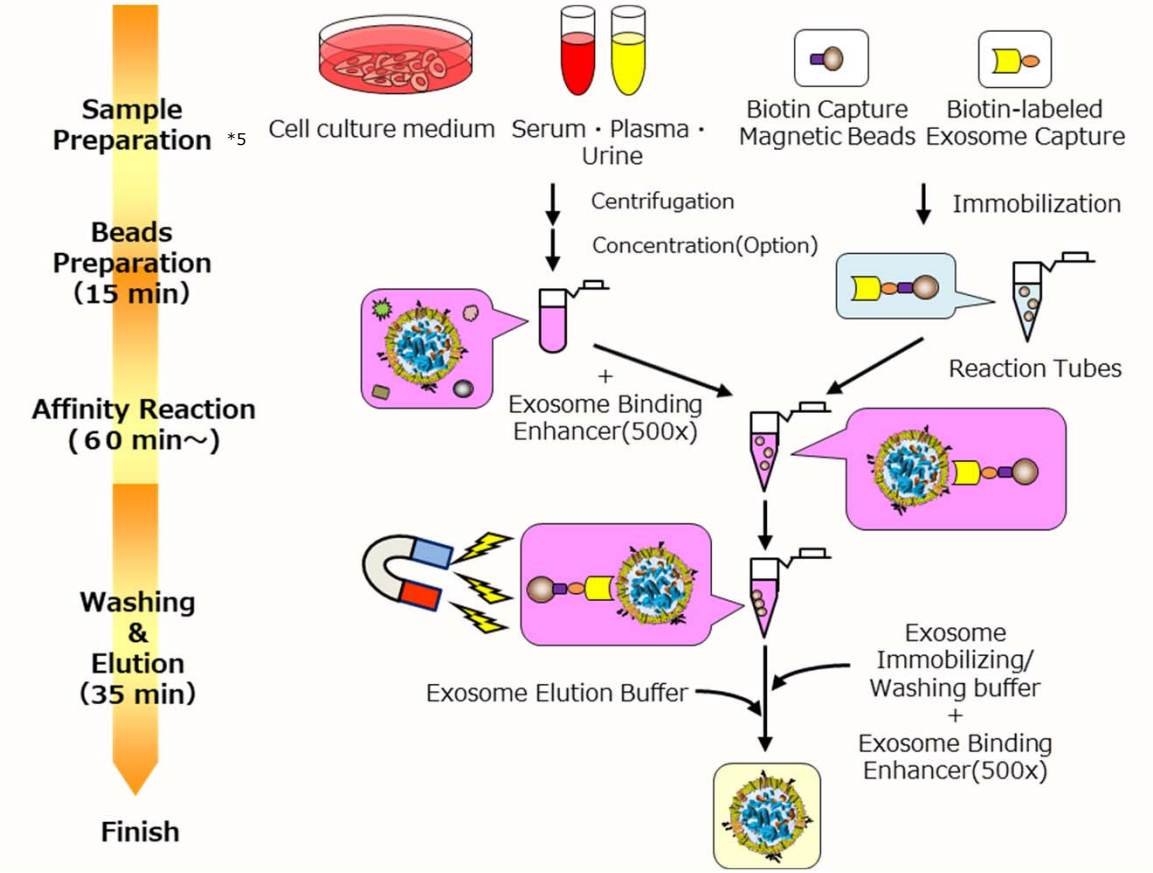
Comparison with conventional Kit

		MagCapture™ Exosome Isolation Kit PS ver.2 (V2.0 kit)	MagCapture™ Exosome Isolation Kit PS (Conventional kit [code No. 293-77601])
Recovery amount	Culture supernatant	■■■■	■■■
	Blood sample	■■■■	■■■
Reaction time *1		1 hour or more	3 hours or more
Recyclable count *2		5 times	5 times
Cell cytotoxicity of elution buffer *3		Low *4 (Versus the conventional kit)	Varies depending on cell lines

*1: Reaction time varies depending on the volume of the sample.
*2: 5 times = 1 time for first use + 4 times for reuse
[We recommend the use of new magnetic beads when using samples of different origin or when there are any risks of contamination.]
*3: Elution buffer = Exosome Elution Buffer contained in the kit.
*4: Uptake experiments are possible (in vitro or in vivo) without changing the elution buffer.
[Buffer exchange is recommended if EDTA in the elution buffer poses a problem.]

Code No.	Product Name	Pkg. size	Storage
294-84101	MagCapture™ Exosome Isolation Kit PS Ver.2	2 tests	2~10 °C
290-84103		10 tests	

Procedure



*5 Our website consults for sample preparation.

Wako Exosome Search

Application Data (comparison with conventional kit)

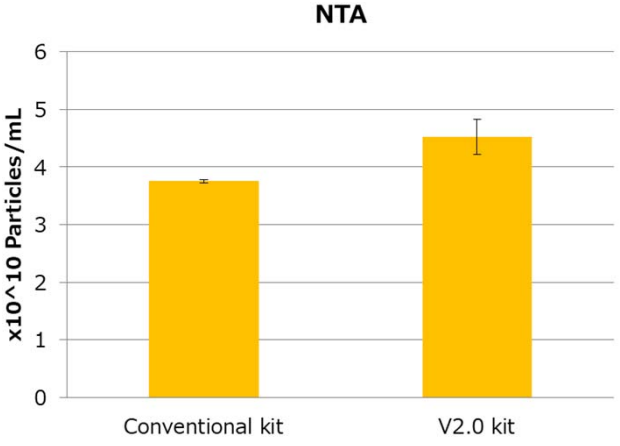
Exosome recovery efficiency: culture supernatant of mesenchymal stem cells (MSC)

EVs from MSC culture supernatant were isolated and purified by conventional kit or V2.0 kit. Then, the following three assays were performed. V2.0 kit contains an exosome elution buffer (10 x). In these assays, 1 x elution buffer and 2 x elution buffer were evaluated.

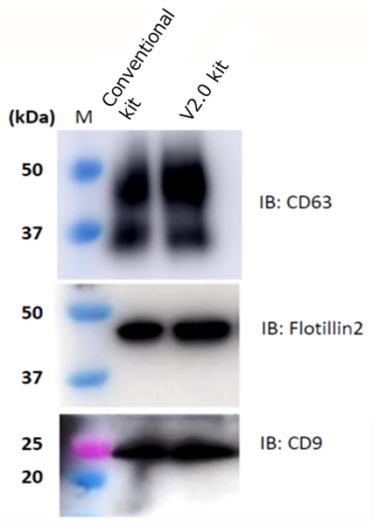
1. **Measuring particle numbers by Nanosight**
2. **Comparison of EVs markers by western blot**
3. **Comparison of EVs marker by PS Capture™ Exosome ELISA Kit**

▷Results

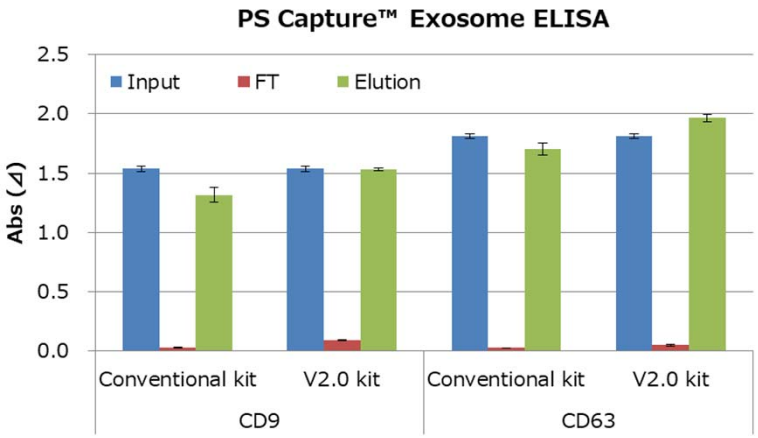
1. Measuring particle numbers by Nanosight



2. Comparison of EVs markers by western blot



3. Comparison of EVs marker by PS Capture™ Exosome ELISA



These results showed that EVs recovery efficiency of V2.0 kit is higher than that of the conventional kit.

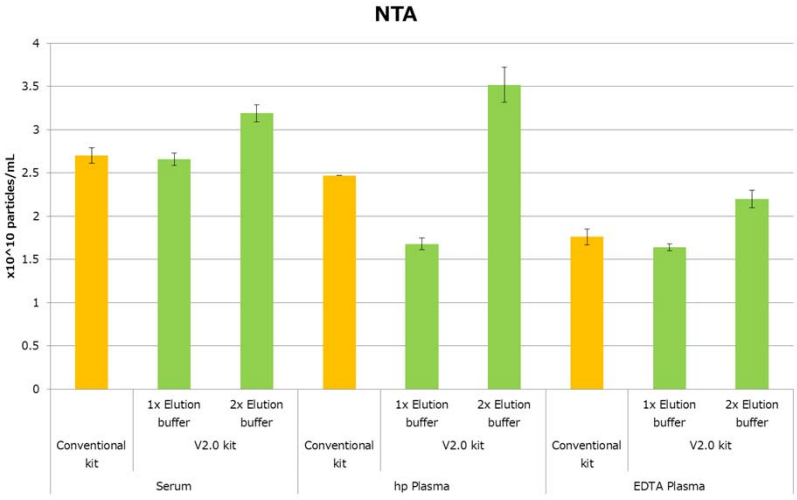
Exosome recovery efficiency: serum and plasma

EVs of human serum and plasma were isolated and purified by conventional kit or V2.0 kit. Then, the following three assays were perfomed. V2.0 kit contains an exosome elution buffer (10 x). In these assays, 1 x elution buffer and 2 x elution buffer were evaluated.

1. **Measuring particle numbers by Nanosight**
2. **Comparison of EVs markers by western blot**
3. **Comparison of EVs marker by PS Capture™ Exosome ELISA Kit**

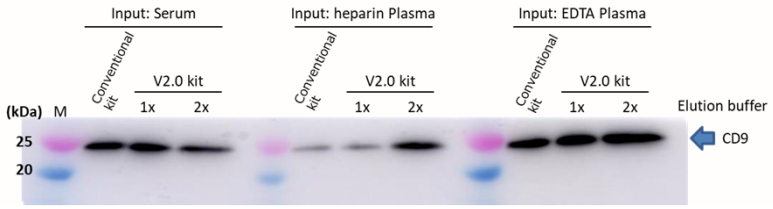
▷Results

1. Measuring particle numbers by Nanosight

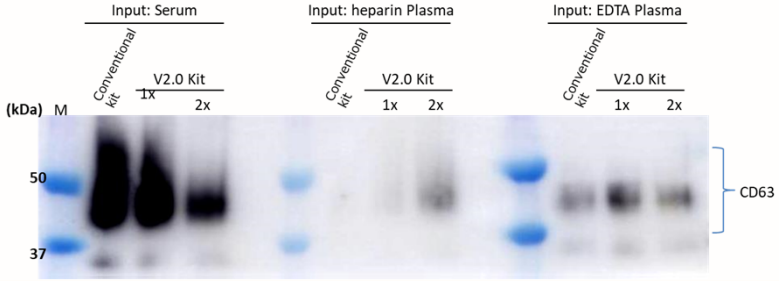


2. Comparison of EVs markers by western blot

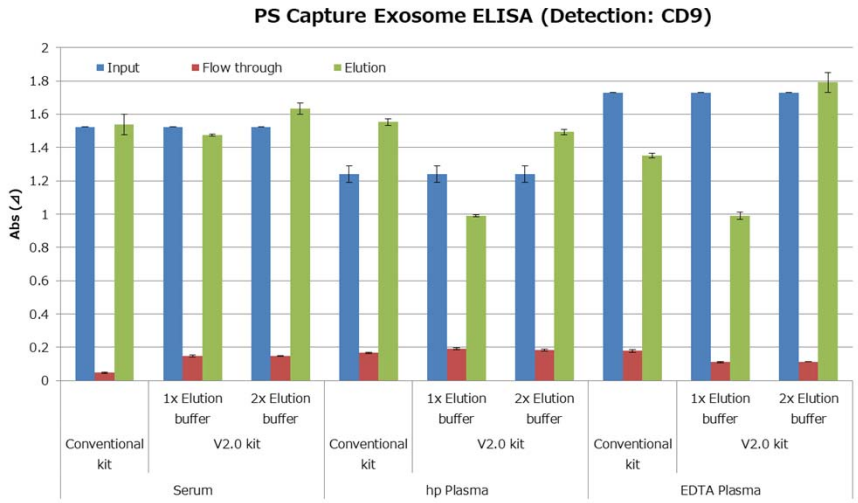
(1) Detection antibody: Anti CD9, Rat Monoclonal Antibody (77B) (Code No. 019-28173)



(2) Detection antibody : Anti CD63, Monoclonal Antibody (3-13) (Code No. 012-27063)



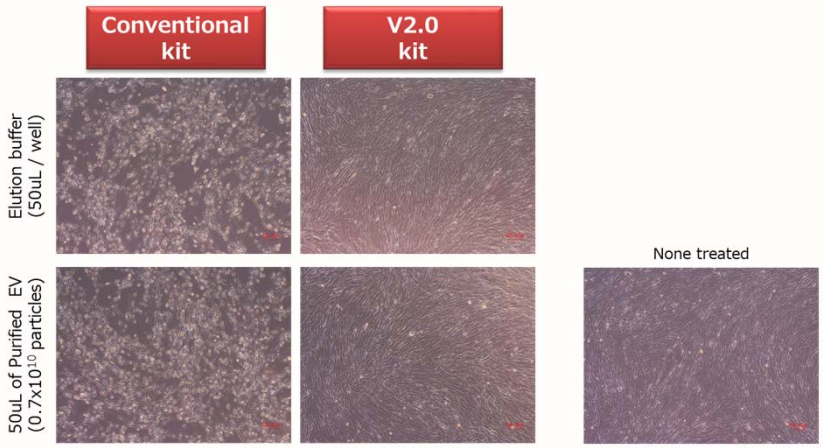
3. Comparison of EVs marker by PS Capture™ Exosome ELISA Kit



V2.0 kit contains an exosome elution buffer (10 x). In this assay, 1 x elution buffer and 2 x elution buffer were evaluated.
As a result, V2.0 kit is as good as the conventional kit for human blood samples.
In particular, recovery efficiency of EVs from plasma sample improved with 2 x elution buffer.

Cell cytotoxicity of purified exosome

EVs from COLO201 cell culture supernatant were isolated and purified by conventional kit or V2.0 kit. Same amount of purified EVs and the exosome elution buffer were added into human normal fibroblasts cells.



After 48 hours, morphological cell changes and cell death were observed with the conventional kit. However, V2.0 kit did not show these changes. Therefore, V2.0 kit could be used for uptake experiments (*in vitro* or *in vivo*) without buffer exchange*6.

*6: Buffer exchange is recommended if EDTA in the elution buffer poses a problem.

Reference

"A novel affinity-based method for the isolation of highly purified extracellular vesicles.", W. Nakai, T. Yoshida, D. Diez, Y. Miyatake, T. Nishibu, N. Imawaka, K. Naruse, Y. Sadamura and R. Hamayama, *Sci. Rep.*, **6**, 33935 (2016).

FUJIFILM Wako Laboratory Chemicals site
https://labchem-wako.fujifilm.com

FUJIFILM Wako Pure Chemical Corporation
1-2, Doshomachi 3-Chome, Chuo-ku, Osaka 540-8605, Japan
Tel: +81 6 6203 3741 Fax: +81 6 6203 1999
ffwk-cservise@fujifilm.com

FUJIFILM Wako Chemicals U.S.A. Corporation
1600 Bellwood Road, Richmond, VA 23237, U.S.A.
Toll-Free (U.S. only): +1 877 714 1920
Tel: +1 804 271 7677 Fax: +1 804 271 7791
wkuslabchem@fujifilm.com

FUJIFILM Wako Chemicals Europe GmbH
Fuggerstr 12, 41468 Neuss, Germany
Tel: +49 2131 311 0 Fax: +49 2131 311 100
labchem_wkeu@fujifilm.com

FUJIFILM Wako Chemicals (Hong Kong) Limited
Room 1111, 11/F, International Trade Centre, 11-19 Sha Tsui Road, Tsuen Wan, N.T., Hong Kong
Tel: +852-2799-9019 Fax: +852-2799-9808
wkhk.info@fujifilm.com

FUJIFILM Wako (Guangzhou) Trading Corporation
Room 3003, 30/F., Dong Shan Plaza 69, Xian Lie Zhong Road, Guangzhou, 510095, China
Tel: +86-20-8732-6381(Guangzhou) Tel: +86-21-6288-4751(Shanghai)
Tel: +86-10-6413-6388(Beijing)
wkgz.info@fujifilm.com