Reagent for Cellular Function Analysis

Autophagy

- Autophagic Flux Assay Kit
- DALGreen-Autophagy Detection
- DAPGreen-Autophagy Detection
- DAPRed-Autopagy Detection

Senescence

- Cellular Senescence Detection Kit -SPiDER-βGal
- Cellular Senescence Plate Assay Kit -SPiDER-βGal

Neurodegenerative Diseases

Cancer

Senescence

Mitochondria

- Mitophagy Detection Kit
- JC-1 MitoMP Detection Kit
- MitoBright LT Series
- MT-1 MitoMP Detection Kit
- MitoBright ROS Deep Red
- Extracellular OCR Plate Assay Kit

Cellular Metabolism

- Glycolysis / OXPHOS Assay Kit
- ATP Assay Kit-Luminescence
- Lactate Assay Kit-WST

Ferroptosis

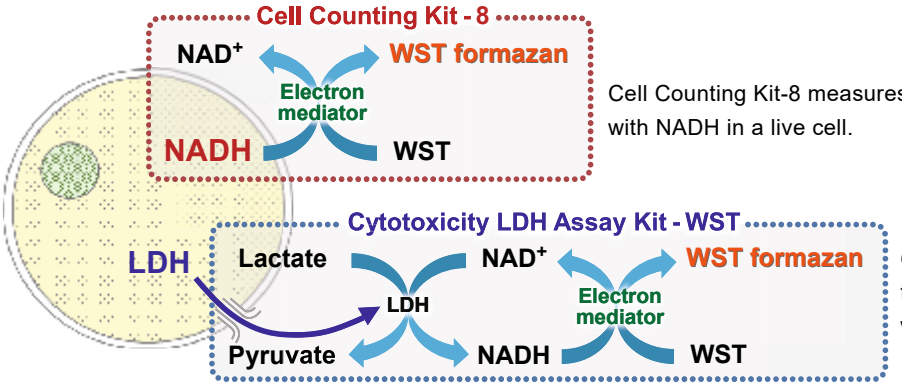
- FerroOrange
- Liperfluo
- Mito-FerroGreen
- MitoPeDPP
- Cystine Uptake Assay Kit
- MDA Assay Kit
- Lipid Peroxidation Probe -BDP 581/591 C11-

Cell Proliferation / Cytotoxicity Assay

Cell Counting Kit-8
Cytotoxicity LDH Assay Kit-WST

Cell Counting Kit-8 Cytotoxicity LDH Assay Kit-WST

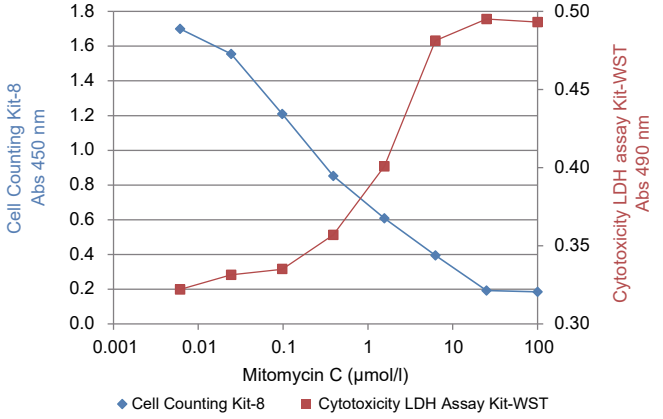
Detection Principle



Cell Counting Kit-8 measures the dehydrogenase activity with NADH in a live cell.

Cytotoxicity LDH Assay Kit-WST measures the LDH released by dead cells. when the plasma membrane is destructed.

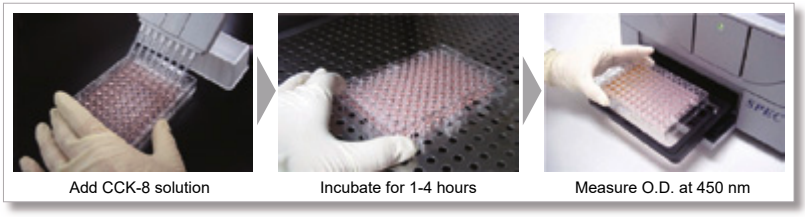
Simultaneous Usage of CCK-8 and Cytotoxicity LDH Assay Kit-WST



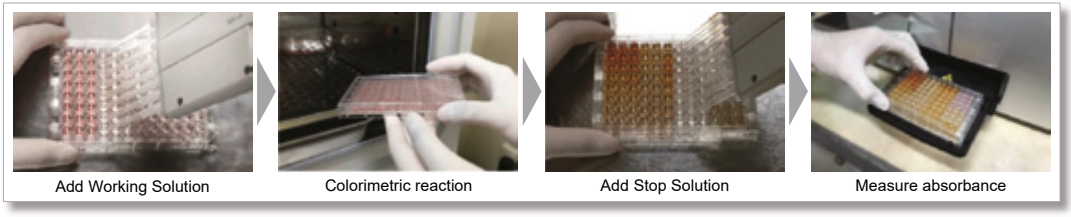
Drug: Mitomycin C
Cell Line: HeLa
Media: MEM, 10% FBS
Incubation: 37°C, 5% CO_2 for 48 hours
Measuring Condition: Cell Counting Kit-8 (450 nm)
Cytotoxicity LDH Assay Kit-WST (490 nm)

Simple Procedure

・Cell Counting Kit-8

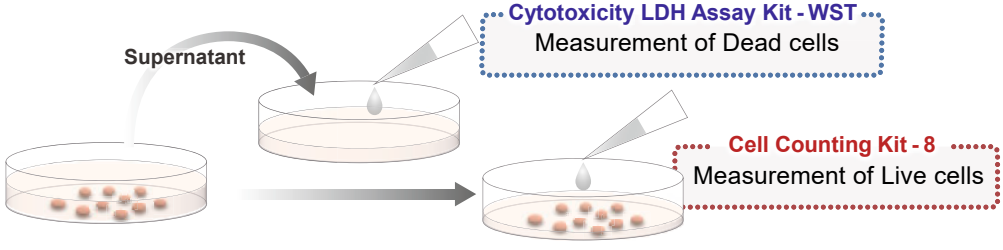


・Cytotoxicity LDH Assay Kit-WST



Same Samples can be used

Since same samples can be used for Cell Counting Kit-8 and Cytotoxicity LDH Assay Kit-WST, the method is convenient and time efficient.



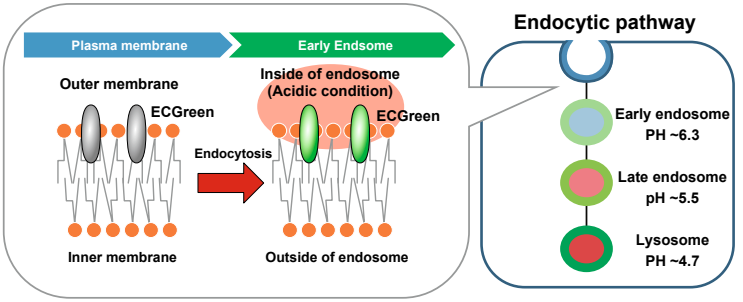
Description	Unit	Code
Cell Counting Kit-8	500 tests	CK04-05
	1000 tests	CK04-11
	3000 tests	CK04-13
	10000 tests	CK04-20
Cytotoxicity LDH Assay Kit-WST	100 tests	CK12-01
	500 tests	CK12-05
	2000 tests	CK12-20

Endocytosis

ECGreen-Endocytosis Detection

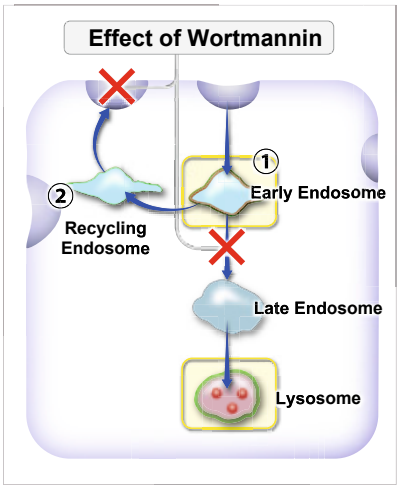
ECGreen-Endocytosis Detection is a pH dependent fluorescence dye that localizes to vesicle membrane. The visualization of endocytosis using the ECGreen is a more direct method than fluorescent analogs and allows visualization endocytosis from the stage of early endosomes.

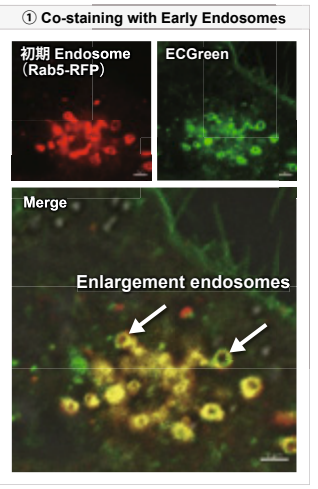
The detection mechanism of endocytosis

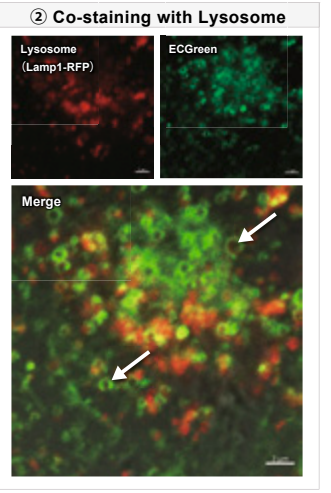


Clear visualization of intracellular vesicular trafficking

It has been known that Wortmannin inhibits the recycling of endosomes or transition to lysosomes and causes enlargement of endosomes. To evaluate these changes caused by Wortmannin, early endosomes were co-stained by ECGreen and Rab5-RFP (marker protein of early endosomes), and lysosomes were co-stained by ECGreen and lysosome staining reagent. In adding Wortmannin, ECGreen was colocalized with enlarged endosomes (Rab5-RFP). On the other hand, ECGreen wasn't colocalized with lysosomes.







Description	Unit	Code
ECGreen-Endocytosis Detection	40 µl	E296-10

AcidSensor Labeling Kit – Endocytic Internalization Assay

This kit is an all-in-one kit that allows visualization of the endocytosis uptake of a target substance. The NH_2-Reactive AcidSensor (fluorescent probe) included in the kit has an intramolecular active ester group that forms a stable covalent bond when mixed with an amino group-containing target substance (protein). The AcidSensor label can be excited at 633 nm, allowing for multiple staining with green or red fluorescence (Figure 1). The AcidSensor label shows little fluorescence in neutral conditions and fluoresces when acidified in the cells where it is taken up by endocytosis (Figure 2).*Notice:

- Unlike the endocytosis detection dye: ECGreen (code: E296), this kit stains target substances that enter the cell.
- This kit can label samples with molecular weights of more than 50,000 and with reactive amino groups.

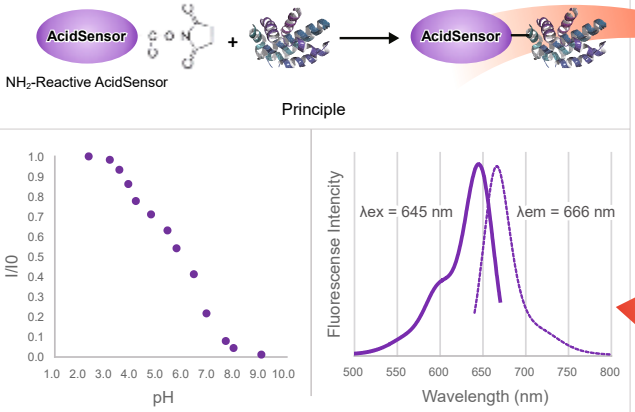


Figure 1. pH dependence and fluorescence spectrum

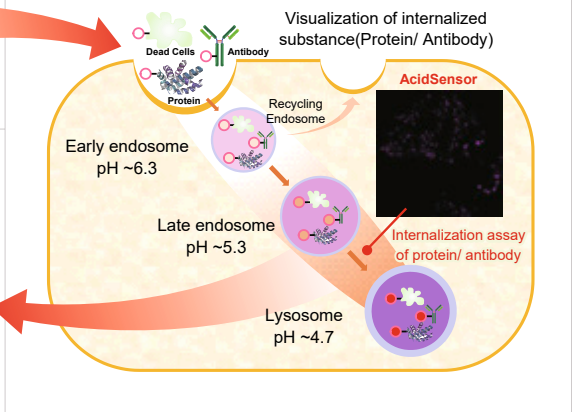
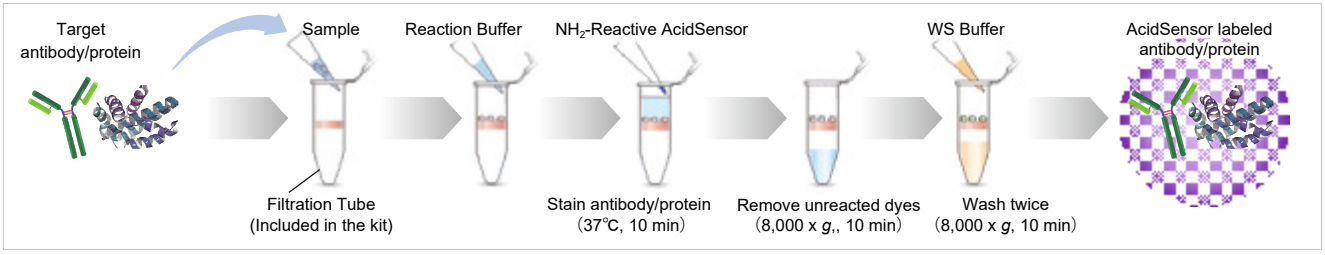


Figure 2. pH dependent fluorescence intensity of AcidSensor

This kit includes a filtration tube necessary to remove the unreacted dye, and allows you to perform everything from labeling to purification operations.* In addition, even first-time users can easily label AcidSensor by conducting experiments according to the instruction manual. * Protein/Antibody is not included.



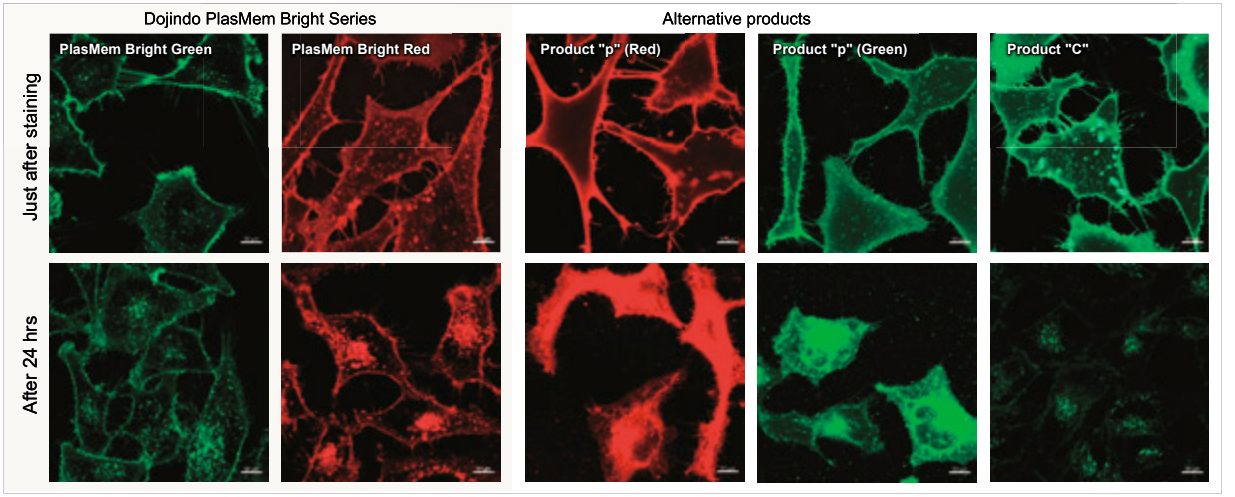
Description	Unit	Code
AcidSensor Labeling Kit – Endocytic Internalization Assay	3 samples	A558-10

Cell Membrane Staining

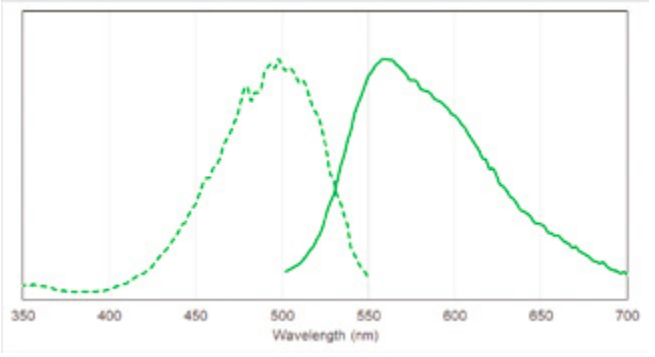
PlasMem Bright Green / Red

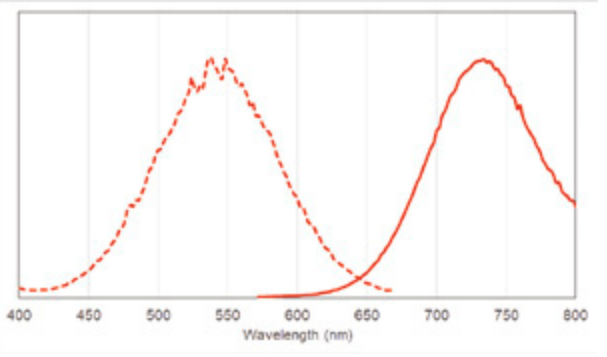
PlasMem Bright dyes overcome these limitations. PlasMem Bright dyes are designed to stain PMs for over a day. Furthermore, the PlasMem Bright dyes are more water-soluble compared with other commercially available dyes and can be diluted with culture medium. The PlasMem Bright dyes offer two different color options (green and red) and are provided as ready-to-use DMSO solutions. A working solution can be prepared easily via a single dilution step using growth medium or HBSS.

High retentivity on plasma membrane



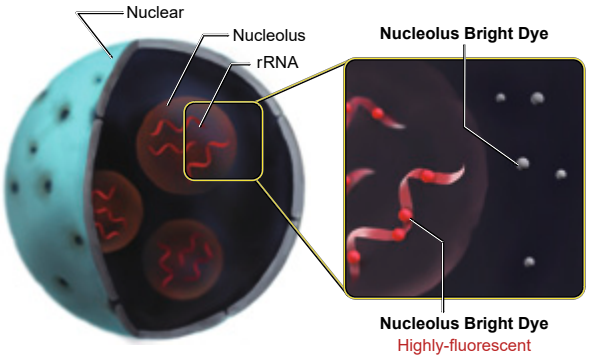
Excitation and emission spectra of PlasMem Bright dyes





Description	Unit	Code
PlasMem Bright Green	100 µl	P504-10
PlasMem Bright Red	100 µl	P505-10

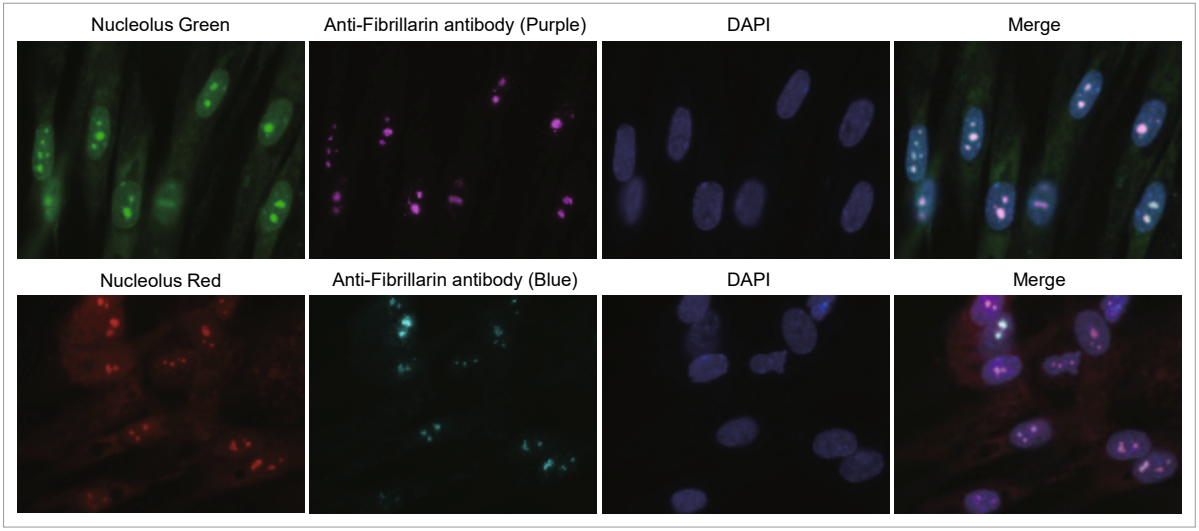
Nucleolus Bright Green / Red



Nucleolus Bright reacts to RNAs present besides nucleolus, but it shows strong fluorescence in nucleolus, which is the site of rRNA production. We recommend to co-stain with DAPI in order to image nucleolus clearly. For co-staining protocol, please refer to the Q&A tab.

	Maximum Excitation Wavelength	Maximum Emission Wavelength	Fluorescence of MeOH fixed cells	Fluorescence of PFA fixed cells
Nucleolus Bright Green	513 nm	538 nm	○	○
Nucleolus Bright Red	537 nm	605 nm	○	○

Nucleolus Localization

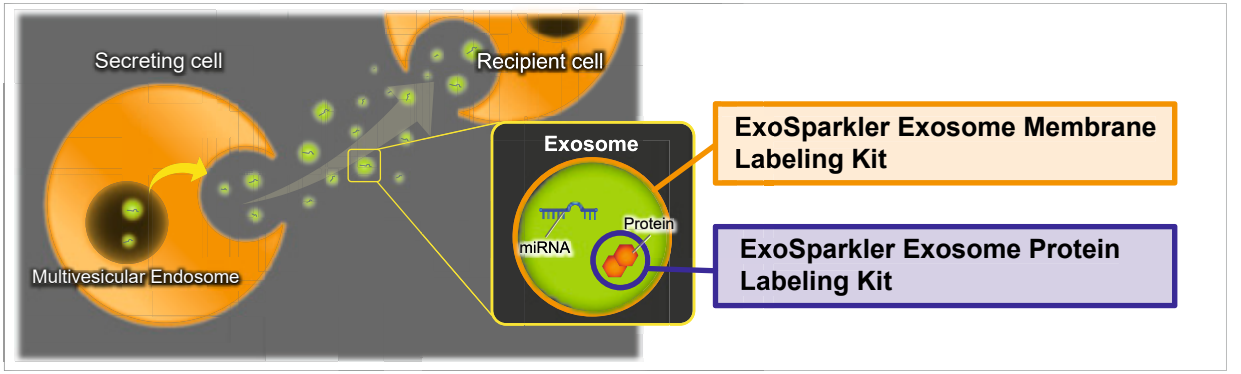


Description	Unit	Code
Nucleolus Bright Green	60 nmol	N511-10
Nucleolus Bright Red	60 nmol	N512-10

Exosome Staining

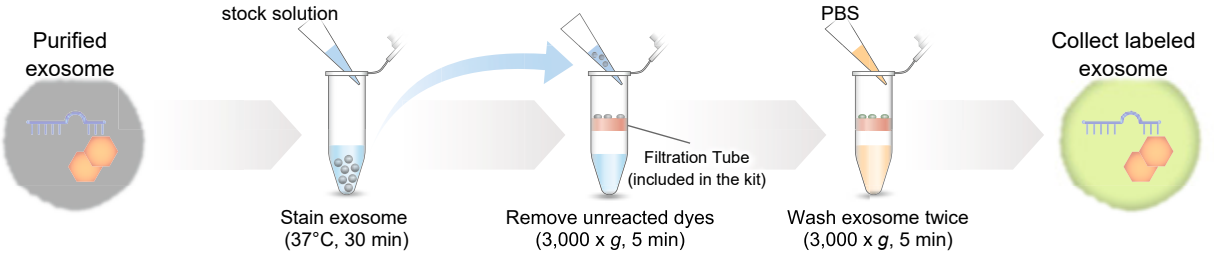
Exosome Labeling Kits

The ExoSparkler series can be used to stain purified exosomal membrane or protein and allows imaging of labeled exosomes taken up by cells.



Labelling Procedure

Staining procedure using ExoSparkler series



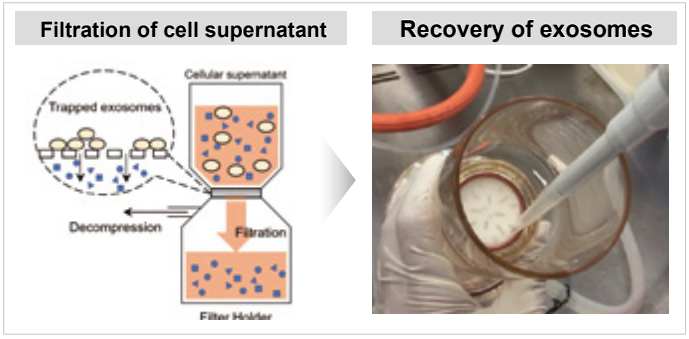
ExoSparkler series contains filtration tubes available for the removal of dyes unreacted after fluorescence labeling, as well as an optimized protocol for labeling exosomes. Our ExoSparkler series makes it possible to prepare fluorescence labeling of exosomes using the simple procedure.

Description	Unit	Code
ExoSparkler Exosome Membrane Labeling Kit-Green	5 samples	EX01-10
ExoSparkler Exosome Membrane Labeling Kit-Red	5 samples	EX02-10
ExoSparkler Exosome Membrane Labeling Kit-Deep Red	5 samples	EX03-10
Exosparkler Exosome Protein Labeling Dye-Green	5 samples	EX04-10
Exosparkler Exosome Protein Labeling Dye-Red	5 samples	EX05-10
Exosparkler Exosome Protein Labeling Dye-Deep Red	5 samples	EX06-10

Exo*Isolator* Exosome Isolation Kit

Exo*Isolator* Exosome Isolation Kit can collect exosomes from cell supernatants with a recovery rate equivalent to the ultracentrifugation(UC) method. Science Exo*Isolator* Exosome Isolation Kit requires only the filtration procedure, unlike the UC, exosomes are obtained quickly without any complicated operations.

Easy to Use no Technique Required



Exo*Isolator* Exosome Isolation Kit includes Filter Holder and Isolation Filter can collect exosomes from cell supernatant by adding PBS to the filter surface after filtration. The exosomes recovery rate is high and easy to use, no technique is required during the whole process. [Patent applied]

Recovery Rate Equivalent to Ultracentrifugation

Fig.1

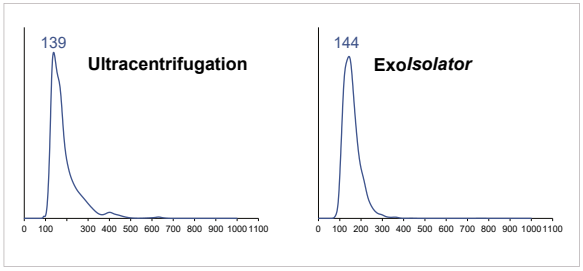


Fig.2a

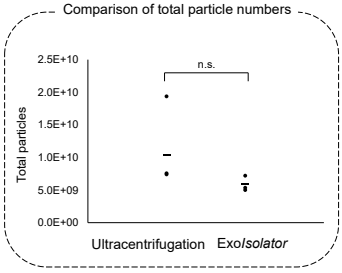
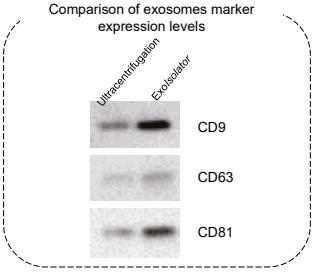


Fig.2b



Ultracentrifugation is the most commonly used method to isolate exosomes. We isolated the exosomes from the supernatant of HEK293S using both of ultracentrifugation method and the Exo*Isolator* method. The particle size distribution (Fig. 1), the number of particles (Fig. 2(a)) and the expression level of exosome markers (Fig. 2(b)) of the isolated exosomes were tested and compared. The results showed that the Exo*Isolator* recovered exosomes with the same particle size distribution and the number of particles as the ultracentrifugation method, and the amount of exosome marker expression per protein was higher, indicating that Exo*Isolator* recovered exosomes with higher purity than the ultracentrifugation method.

Description	Unit	Code
Exo*Isolator* Exosome Isolation Kit	3 tests	EX10-10
Exo*Isolator* Isolation Filter	10 pieces	EX11-10

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