Cell Culture Product Catalog

Creating the future of life science with our original technology

FUKOKU

Cell culture bag FKCB series

FKCB-ST3

FKCB 215

FKCB-215C

Usage

Used for culturing floating cells like lymphocytes.

Characteristics

- Reduces the risk of contamination and infection by foreign substances, bacteria, viruses, etc.
- The high gas permeable film permits high-density culture.
-The gas permeability of the film can be customized up to 1,500 to 3,500 cm^3 / m^2 • day • ATM.
-The film is highly transparent and can be observed under a microscope.
-The bag body material (olefin resin) comply with the Japanese Pharmacopoeia test methods for plastic containers.
-The tubes materials (vinyl chloride, etc.) comply with the “Sterile infusion administration set standard” (JIS T3211).

Product Name		FKCB-ST3	FKCB 215	FKCB-215C Anti-CD3 antibody (coat bag)
Culture Area		292 mm	183 mm	183 mm
		220 mm	120 mm	120 mm
		~1200 mL	~350 mL	~350 mL
Tube		Filling tube Sampling tube Linking tube	Filling tube Sampling tube	Filling tube Sampling tube
Packing		Individual	Individual	Individual
Bags/box		10 bags/box	10 bags/box	10 bags/box

It is also possible to customize the tube diameter and length, change the port specifications (needle → needleless, etc.) and add various attachments.

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Media Storage Bag

Usage

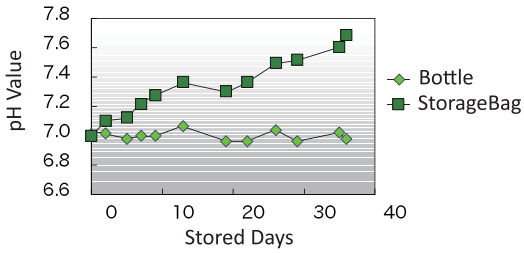
Long-term storage of cell culture media and other solutions by minimizing the amount of oxygen permeated into the bag.

Characteristics

- Uses a highly oxygen permeable film to ensure long-term stability of the contents.
- Compared to medium bottle, there is no atmospheric replacement inside the container even after opening, reducing the deterioration of the internal solution and the risk of contamination.
- The shape and the specifications of the bag and the tube can be customized.

Product Name	Capacity	Outer Dimensions	Available Tubes
Media Storage Bag	0.5 L	234×124 mm	Filling tube Sampling tube Linking tube
	2 L	344×224 mm	
	5 L	487×254 mm	
	10 L	530×360 mm	
	15 L	590×390 mm	
	20 L	726×390 mm	

pH value fluctuations of stored medium



Compared to medium bottle, the pH values are stable even after opening, and it remains fresh.

Cell cryopreservation bag

New

Usage

Container for cryopreservation of cells.

Characteristics

- High impact resistance at extremely low temperatures, can be cryopreserved at -196 ° C.
- Include an special case for the cryogenic process
- A spike port is used to reduce the risk of contamination.
- Available 100 mL bag samples.

Product Name	Inner Dimensions	Available Tubes	Capacity
Cell Cryopreservation Bag	152×136 mm	Connecting tube Spike port x 2	100 mL

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Centrifuge Bag/System

New

Usage

Cell collecting system that can perform cell washing in closed environment.

Characteristics

- Optimal closed environment warrantied by aseptically connecting the tubes attached to the bags.
- Costs are reduced since cabinets, cleanroom with a high degree of cleanliness or expensive dedicated equipment’ s are not required.
- 300-600 mL of culture solution can be processed per one cleaning bag.

Components

Expendables

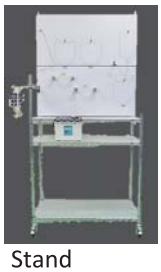
Culture bag

Washing bag

Drain bag

Special equipment

Centrifuge adapter



Stand

Equipment

Centrifuge

Sterile Tubing Welder

Tube sealer

System concept

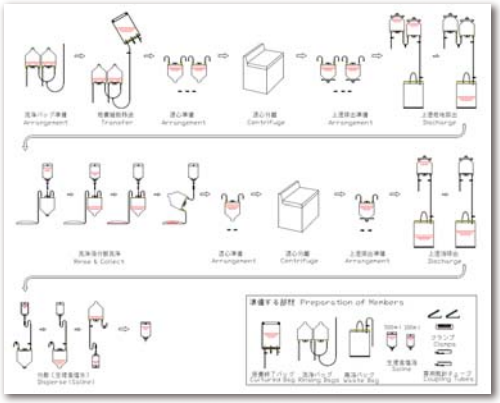
The cell medium is transfer to washing bag.

Washing Bag is collocated on the centrifuge adapter and then to the centrifuge machine.

Clamp the Washing bag to separate the supernatant and cells.

Sterile tubing welder is used to make connection between the bags.

System flow



Example of system test results

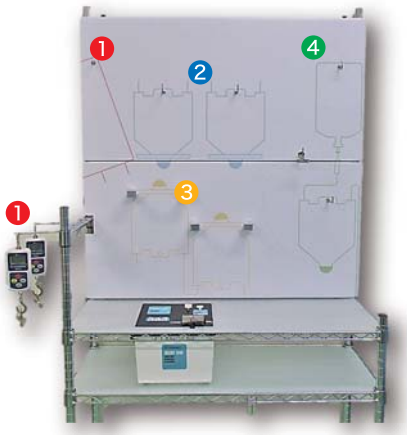
- Cell recovery rate 96% or more
- Cleaning efficiency (medium removal rate) 99.9% or more
- Viability: No effect
- Note: Results data of a 1L cell culture bag floating cells
- that have been washed (two centrifuge operations).

Stand

Areas are divided by each process to prevent bag setting mistakes.

Process

1. Dispensation to washing bag
2. Supernatant liquid discharge preparation
3. Supernatant liquid discharge
4. Washing with cleaning liquid



- In the dispensing process to the washing bag, the weight balance before centrifugation can be easily checked with a weighing scale.
- The number of bags to be dispensed can be increased as needed.

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SphereRing®

Spheroids forming Culture Container

Characteristics

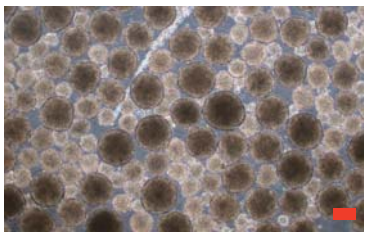
- Spheroid cells are homogeneous with almost the same size.
- Suppresses shear stress on cells by gentle swirling culture.
- The highly transparent film improve observation under a microscope.
- Our high gas permeable film allows make closed culture.
- In combination with Fukoku cell rinsing system, contamination risk is reduced.

iPS Cell Culture Results

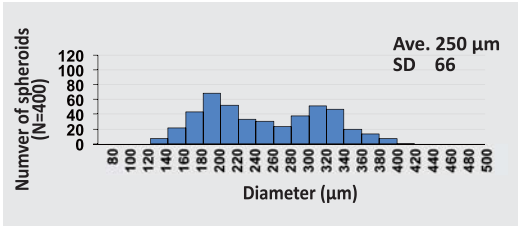
- High production of spheroids cells with a uniform diameter, compared with shaking culture system on a dish.
- By using a ring-shaped bag, variations on the spheroids cells shape are minimum and the cell aggregates more uniform.

Cell aggregates morphology and Aggregates Diameter Histogram

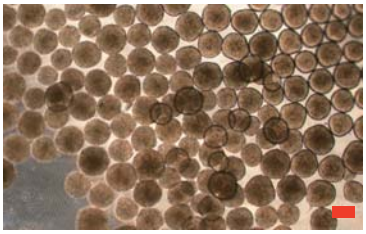
90 mm Dish



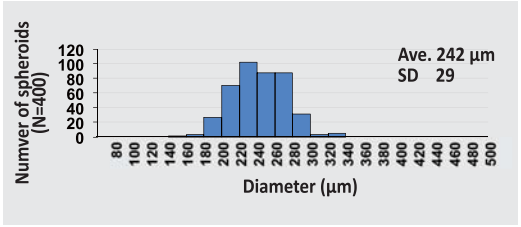
Bar=200 μm



SphereRing 20



Bar=200 μm



Cell：TkDN4-M(human iPS cell)
Medium：Essential8(Thermo Fisher)
Seeding density：2.0×105 cells/mL
Volume：20 mL
Agitation：50rpm
Culture days : 4 Days
Number : 4,000 cell spheroids approx.

Video Journal

https://www.jove.com/video/57922

Horiguchi, I., Suzuki, I., Morimura, T., Sakai, Y. An Orbital Shaking Culture of Mammalian Cells in O-shaped Vessels to Produce Uniform Aggregates. J. Vis. Exp. (143), e57922, doi:10.3791/57922 (2019).

[Provided by University of Tokyo, Department of Bioengineering, School of Engineering, Sakai Laboratory]

Other documents

- Evaluation of the Usefulness of Human Adipose-Derived Stem Cell Spheroids Formed Using SphereRing® and the Lethal Damage Sensitivity to Synovial Fluid In Vitro, Cells 2022, 11:3, 337, (2022).
- Production of homogenous size-controlled human induced pluripotent stem cell aggregates using ring-shaped culture vessel, Journal of Tissue Engineering and Regenerative Medicine, 16:3, 254-266, (2021).

Product Name	Description	Available Tubes	Capacity	Packing	Bags/box
SphereRing 20	Spheroid cell culture container	Needledd connector (Customizable)	20 mL	Individual	5 bags/box
SphereRing 100			100 mL		
SphereRing 300			300mL		

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FKCM 101

Human T cell activation and expansion culture medium

Usage

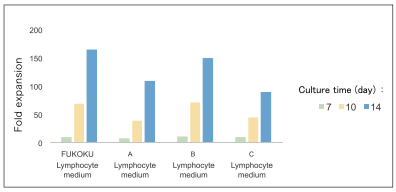
Activation of human peripheral blood T cells for culture.

Characteristics

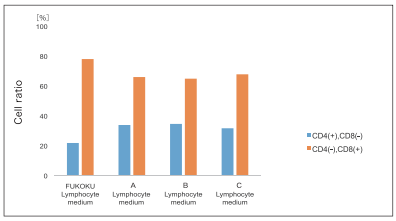
- Contains only human serum albumin protein.
- Includes streptomycin as an antibiotic. Can be customised with other antibiotics or additives.
- At the time of primary culture, cell proliferation can be promoted by adding 4% serum.
- Confirmed as material for use on regenerative medicine. (Japan’ s Pharmaceuticals and Medical Devices Agency No. 1122004)
- The culture bag material has an excellent gas permeability, and the safety and quality are confirmed based on the Japan’ s Pharmaceuticals and Medical Devices Agency.

FKCM101 Series

Product Name	Description	Volume/Packaging
FKCM 101T	Serum-free medium for Human lymphocytes (IL-2 not included)	1,000 mL PET bottle
FKCM 101B		1,000mL bag
FKCM101-L300T	Serum-free medium for Human lymphocytes (IL-2 300 IU/mL)	1,000 mL PET bottle
FKCM101-L300BA		1,000mL bag
FKCM101-L13T	Serum-free medium for Human lymphocytes (IL-2 1,300 IU/mL)	1,000 mL PET bottle



Our medium has excellent cell proliferation for culture in comparison with other companies' products up to the 14th day.



From lymphocyte surface marker analysis, CD4 (-) CD8 (+) cells (cytotoxic T cells) are the most obtained in our medium.

FKCM 201

Human fibroblast serum-free medium

Usage

It contains ingredients necessary for the proliferation and maintenance of human fibroblasts, and can be used for research on wound healing, skin diseases, etc.

Characteristics

- The medium does not contain animal-derived ingredients.
- Includes streptomycin as an antibiotic.
- Can be customised with other antibiotics or additives.
- During primary culture, it is not necessary to add cell adhesion factors such as collagen.
- By adding 0.5-2% serum, cell proliferation can be improved.
- Supplements for growth promotion are available separately.

Product Name	Description	Volume/Packaging
FKCM 201T	Serum-free medium for fibroblasts	500 mL PET bottle

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FKCM 301T, 304T

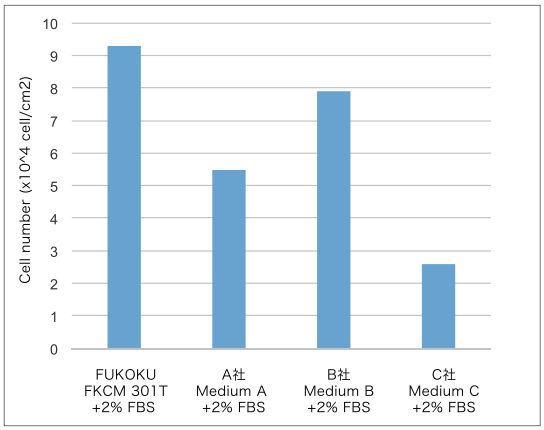
Human mesenchymal stem cell serum-free medium

Usage

Serum-free medium for mesenchymal stem cells

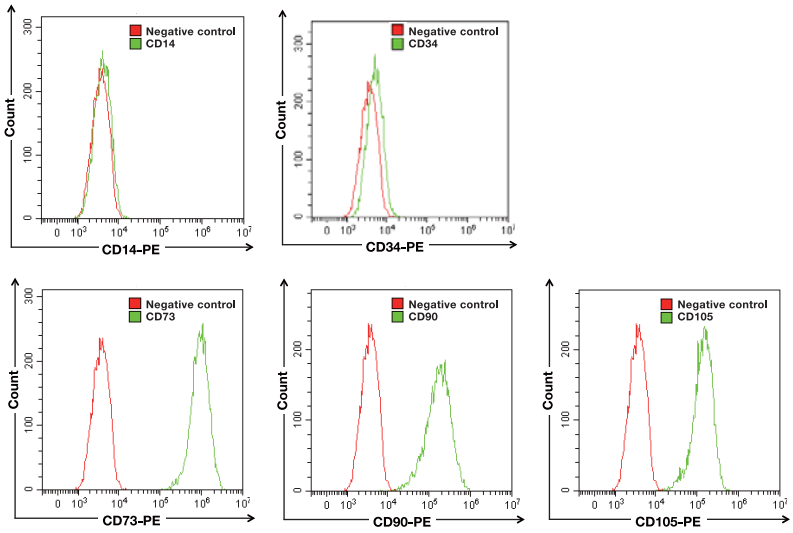
Characteristics

- The medium material does not contain animal-derived ingredients.
- Includes streptomycin as an antibiotic. Can be customised with other antibiotics or additives.
- During primary culture, it is not necessary to add cell adhesion factors such as collagen.
- Please add 0.5-2% serum or serum substitute.
- Supplements for growth promotion are available separately.

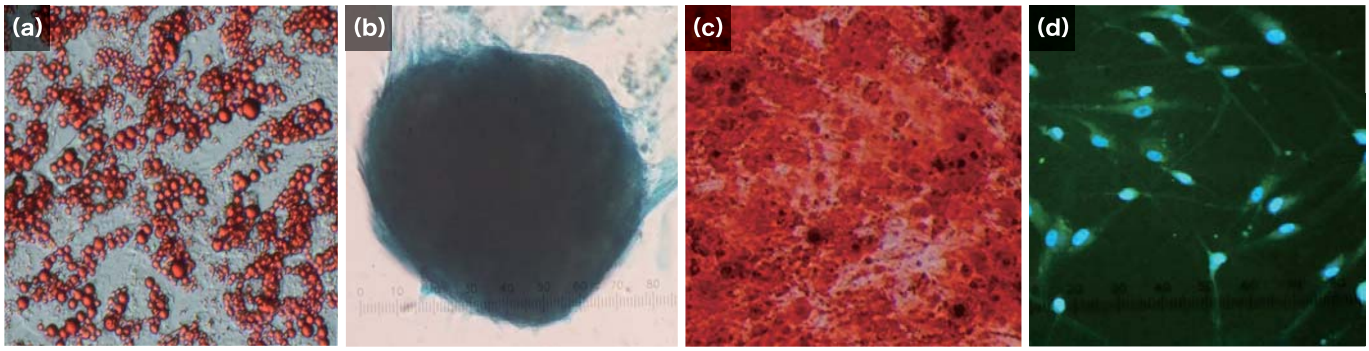


Proliferation comparison of Fat MSC cells with products of other companies, shows that FKCM301T has higher cell proliferation than others.

MSC cultured antigen marker



Product Name	Description	Volume/Packaging
FKCM 301T	Serum-free medium for mesenchymal stem cells	500 mL PET bottle
FKCM 304T		



(a): 14 days old cells after induction of fat differentiation (Oil Red O staining)
(b): 14 days old cells after induction of cartilage differentiation (Alcian Blue staining)
(c): 14 days old cells induction of bone differentiation (Alizarin Red S staining)
(d): 14 days old cells after induction of neural differentiation (β-III tubulin NL493 antibody / Hoechst33342 nuclear staining)

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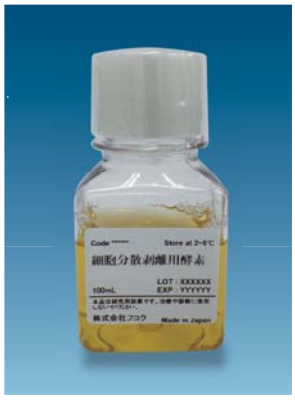
Product developed with Oda Bio-immuno Laboratory

Cell detachment Enzyme

New



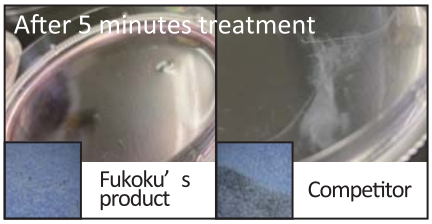
Usage

It can be used for detachment and dispersion of cultured cells on a flat surface in flasks and three-dimensional cultured cells such as spheroids.

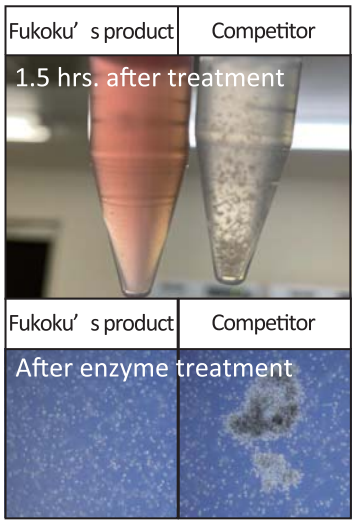
Characteristics

- Prevents cell ECM aggregation that occurs when mesenchymal stem cells are detached and separate into a single cell with high efficiency.
- It is extremely low in cytotoxicity and can maintain a high survival rate even when being treated overnight.

Product Name	Volume
Cell detachment Enzyme	100 mL



Dispersibility comparison after planar culture



Dispersibility comparison after Three-dimensional culture

Product developed with Oda Bio-immuno Laboratory

ODF Banker

Freezing medium

New

Usage

A cell freezing medium for long-term storage of cells.

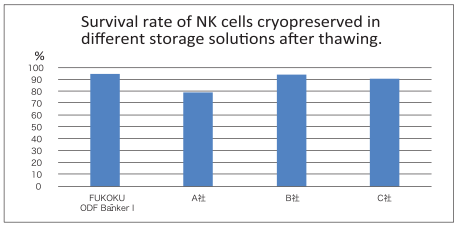
Applicable cell type

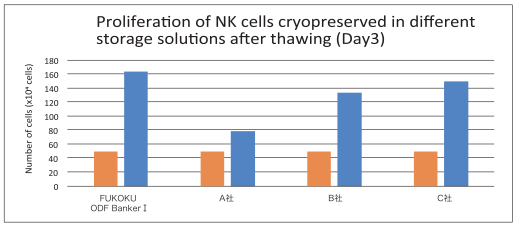
- Floating cell lines as: Daudi, K562, Raji, etc.
- Floating cells as: Active human peripheral blood lymphocytes
- Adhesive cell lines as: Vero, CHO, etc.
- Adhesive cells as: MSC, Fibroblasts, Aascular endothelial, etc.

Characteristics

- ODF Banker I, with human serum albumin.
- ODF Banker II, a chemically defined preservation solution that does not contain animal extracts.
- These products can be stored in a cool and dark space (2-8 ° C) and also deep-frozen.

Product Name	Volume
ODF Banker Ⅰ	100 mL
ODF Banker Ⅱ	100 mL





ODF Banker I and ODF Banker II basic composition are different. Both products contain dimethyl sulfoxide (DMSO).

FUKOKU

Company Profile

Company name	FUKOKU Co., Ltd.
Founded	December 24, 1953
Capital	1,395.35 million yen
Employee	1,171 people (March 2022)
Head office location	Urawa City, Saitama Prefecture
Listed stock exchange	Tokyo Stock Exchange Prime Market
Main business contents	Manufacture and sales of rubber products Manufacture and sales of metal and synthetic resin products Manufacture and sales of ceramics and medical devices Manufacture and sales of bio and medical products
Office	Ageo Factory, Gunma Factory, Gunma No. 2 Factory, Aichi Factory, Nishio Factory, Urawa Office, Osaka Sales Office
Home page	https://www.fukoku-rubber.co.jp/
Securities code	5185 (Tokyo Stock Exchange)
Affiliated company	Domestic: Sueyoshi Kogyo Co., Ltd., Tokyo Rubber Mfg. Co., Ltd. Overseas:Tai Fukoku, Siam Fukoku, Fukoku Tokai Rubber Indonesia, South Korea Fukoku, Shanghai Fukoku, Dongfang Fukoku, Qingdao Fukoku, Fukoku (Shanghai) Trade,Fukoku America, Fukoku India, Fukoku Vietnam, Taifukoku Pana Plus Foundry, Trim Rubber, Fukoku Mexicana

Quality assurance/authorization

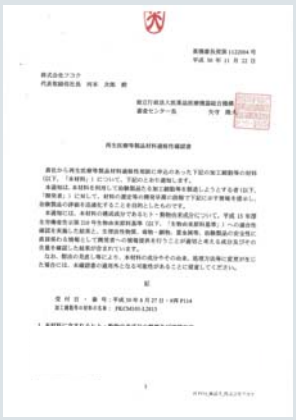
ISO 9001

ISO 14001

医療機器製造業登録証

第二種医療機器製造販売業許可証

再生医療等製品材料適格性相談確認書



原薬等登録原簿登録証

FUKOKU

These products are for research use only.
Product specifications and packaging are subject to change without notice.

FUKOKU Co., Ltd.

Bio Department

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2022.10