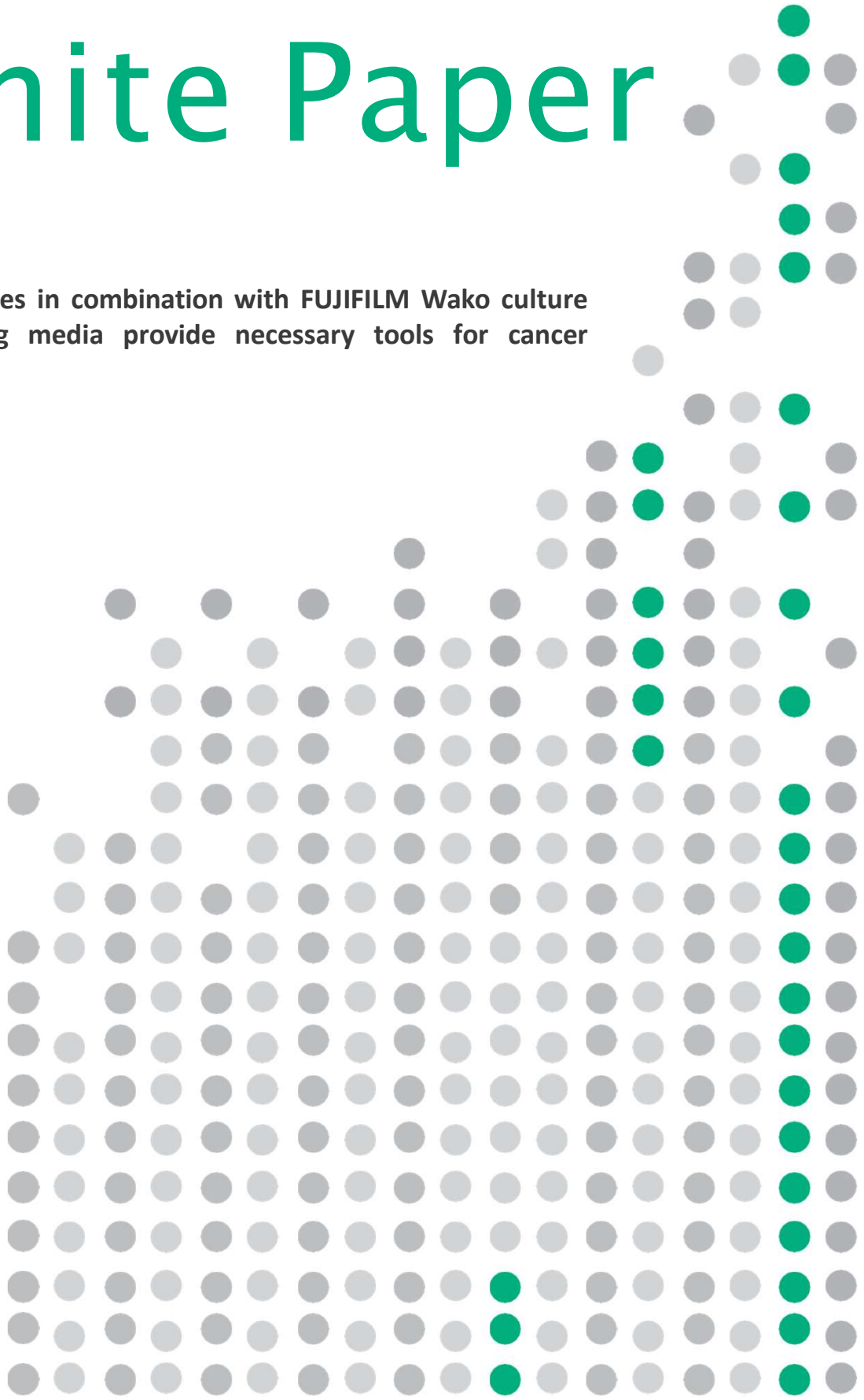


# White Paper

JCRB cell lines in combination with FUJIFILM Wako culture and freezing media provide necessary tools for cancer research



# Overview

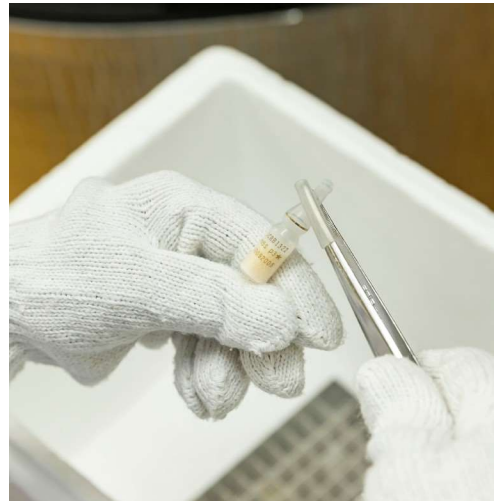
Cells are alive and require continuous culture and passaging for their maintenance. Long-term cell culture is costly, time-consuming and carries the risk not only of contamination with bacteria or other cell lines and interruption of culture due to equipment failure, but also of changes in the inherent characteristics of the cell line, such as cell morphology, growth potential and sensitivity to bioactive substances. Cell preservation method is one of the most important technologies in the field of cell therapy to protect cells from these risks and reduce the unnecessary cost.

For this purpose, FUJIFILM Wako provides distinctive JCRB cell line products, culture, and cryopreservation media products.

## JCRB Cell Lines

JCRB (Japanese Collection of Research Bioresources) is one of the most comprehensive cell banks in the world for pure and applied science, spanning many fields of research across the globe.

FUJIFILM Wako has teamed up with the National Institute of Biomedical Innovation to bring you access to over 1,600 cell lines, which can be used not only as a monolayer cell culture, but also as a 3D cell culture. In Europe, we are the exclusive provider of JCRB's comprehensive catalog of cell lines.



## Most popular JCRB cell line products

JCRB No.	Cell-line name	Profile
JCRB0403	HuH-7	Well differentiated human hepatocellular carcinoma cell line
IFO50041	MBT2	Bladder carcinoma
JCRB0834	NUGC-4	Stomach adenocarcinoma, poorly differentiated, signet ring cell carcinoma
JCRB0098	KURAMOCHI	Ovarian undifferentiated carcinoma, ascites
JCRB1020	RERF-LC-Ad1	Human lung cancer cell line, adenocarcinoma
JCRB1043	OVISe	Human cell line derived from ovarian tumor

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# Applications of JCRB cell lines

## 1. Toxicology and Drug Screening

JCRB0134 (MCF-7) cell lines are used as valuable models for toxicology and drug discovery. They retain their genome over time and can be used to perform drug screening and facilitate patient specific drug development.

## 2. Benefit of Variety of Ethnic Background in Patient Targeted Cancer Therapies

JCRB offers a highly representative panel of cell lines in terms of ethnic and gender diversity, which could improve the success rate in identifying effective cancer therapeutics in cell culture models and thereby reduce drug failures in diverse human populations.

JCRB provides a wide range of cell line products. To see more information or full lineup of cell line products, please refer to the link:

[https://labchem-wako.fujifilm.com/europe/cell\\_bank/index.html](https://labchem-wako.fujifilm.com/europe/cell_bank/index.html)

## JCRB cell lines related cell culture & freezing media

FUJIFILM Wako offers cell culture and freezing media to support a wide range of research using JCRB cell line products.

### 1. BAMBANKER® Medium series

BAMBANKER™ Direct offers enhanced operability. A significant advantage of this medium is its elimination of the need for centrifugation during cell collection, simplifying the preservation process. This feature streamlines cell preparation, saving time and reducing the potential for cell damage associated with centrifugation.



### Features

1. Ready-to-use medium for preservation of cells
2. Usable without diluting
3. NO program freezer is required
4. Rapid and long-term freezing and preservation in a deep freezer (-80°C) Serum-free

# Applications

## Comparison of BamBanker® with other relevant products

■ BAMBANKER®(GCLYMPHOTEC) ■ Serum Medium with Serum (Company A) ■ Serum-Free Medium (Company A)

### P3U1 (mouse myeloma cell line)

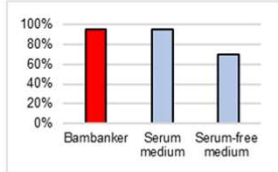
Storage Period 1 year

BamBanker® 95%

Serum Medium 95%

Serum-Free Medium 70%

Cell Number/vial  $2.0 \times 10^6$



### human $\gamma$ T cells

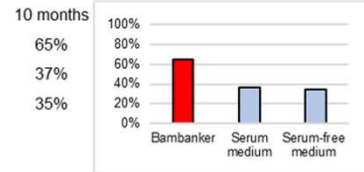
Storage Period 10 months

BamBanker® 65%

Serum Medium 37%

Serum-Free Medium 35%

Cell Number/vial  $1.0 \times 10^6$



### K562 (human leukemia cell line)

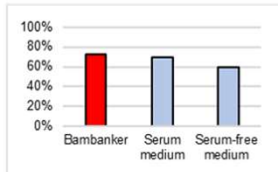
Storage Period 1 year

BamBanker® 73%

Serum Medium 70%

Serum-Free Medium 60%

Cell Number/vial  $3.0 \times 10^6$



### human B cell line

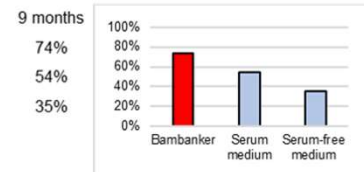
Storage Period 9 months

BamBanker® 74%

Serum Medium 54%

Serum-Free Medium 35%

Cell Number/vial  $1.0 \times 10^6$



### OKT4 (mouse hybridoma)

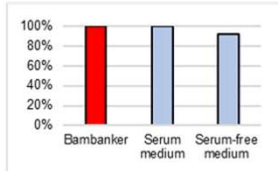
Storage Period 1 year

BamBanker® 100%

Serum Medium 100%

Serum-Free Medium 92%

Cell Number/vial  $1.3 \times 10^6$



### PC12 (rat-derived adrenal pheochromocytoma)

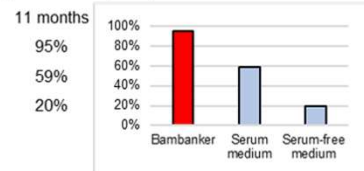
Storage Period 11 months

BamBanker® 95%

Serum Medium 59%

Serum-Free Medium 20%

Cell Number/vial  $1.0 \times 10^6$



### Daudi (human B cell line)

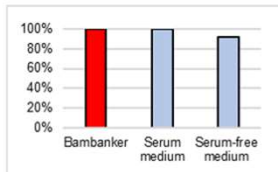
Storage Period 1 year

BamBanker® 100%

Serum Medium 100%

Serum-Free Medium 92%

Cell Number/vial  $9.2 \times 10^5$



### Monkey B cell line

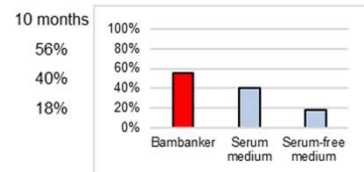
Storage Period 10 months

BamBanker® 56%

Serum Medium 40%

Serum-Free Medium 18%

Cell Number/vial  $1.0 \times 10^6$



### Human gastric epithelial cells

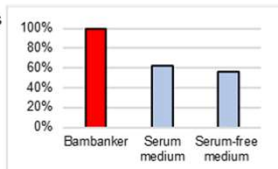
Storage Period 10 months

BamBanker® 100%

Serum Medium 62%

Serum-Free Medium 56%

Cell Number/vial  $1.0 \times 10^6$



## Ordering information

Wako Code	Product Name	Package Size
302-14681	BAMBANKER®	120 mL
306-14684	BAMBANKER®	20 mL x5
306-95921	BAMBANKER® Direct	20 mL

## 2. Cancer cell culturing media

F-PDO, developed by the Fukushima Translational Research Project, refers to a suite of patient-derived tumor organoids (PDOs) recently established from various types of tumor tissues, including but not limited to human lung, ovarian, and uterine tumors<sup>1,2</sup>. These novel PDOs are part of an ongoing effort to broaden the scope of cancer research. Notably, this product is designed for culturing F-PDOs and has demonstrated the capability to maintain PDO cultures for over six months. During this extended period, the PDOs have shown the ability to form cell clusters that retain similar morphological characteristics to their original tumor tissues, even after prolonged growth under specific culture conditions. This sustained morphological consistency suggests that F-PDOs could potentially replicate similar functions when used in the culture of established cancer cell lines. This feature underlines the potential of F-PDOs as a reliable tumor organoid model for cancer research and therapeutic development.”

### Ordering information

Wako Code	Product Name	Package Size
035-25735	Cancer Cell Expansion Media	500 mL
032-25745	Cancer Cell Expansion Media plus	500 mL

### Citations

- 1) Tamura H, *et al.*: *Oncol Rep.* 2018 Aug;**40**(2):635-646.
- 2) Higa A, *et al.*: *J Vis Exp.* 2021 Jun;**14**(172).

### Distribution & Enquiries

Listed products are intended for laboratory research use only, and not to be used for drug, food or human use. JCRB Cell Bank is testing the cell lines for viruses pathogenic to humans as extensive as possible. However, there is the problem of detection limit and it is practically impossible to examine “all pathogens” as well as un-identified viruses. Therefore, the cell line should be handled as potentially biohazardous materials. Practically, the handling in accordance to biosafety level 2 is recommended. This does not mean that the cell line produces BSL-2 pathogens but is needed to avoid potential risk./ Please visit our online catalog to search for other products from FUJIFILM Wako; <https://labchem-wako.fujifilm.com> / This leaflet may contain products that can not be exported to your country due to regulations. / Bulk quote requests are welcome. Please contact us.

**FUJIFILM Wako Chemicals Europe GmbH**  
Fuggerstr. 12 · 41468 Neuss, Germany

Telephone:+49-2131-311-271  
Fax: +49-2131-311-110

E-mail: [labchem\\_wkeu@fujifilm.com](mailto:labchem_wkeu@fujifilm.com)

**FUJIFILM Wako Pure Chemical Corporation**  
1-2, Doshomachi 3-Chome Chuo-Ku, Osaka 540-8605, Japan

Telephone:+81-6-6203-3741  
Fax: +81-6-6203-1999

E-mail: [ffwk-cservice@fujifilm.com](mailto:ffwk-cservice@fujifilm.com)



<https://labchem-wako.fujifilm.com>

**FUJIFILM Wako Chemicals U.S.A. Corporation**  
1600 Bellwood Road Richmond · VA 23237, USA

Telephone:+1-804-714-1920  
Fax: +1-804-271-7791

E-mail: [wkuslabchem@fujifilm.com](mailto:wkuslabchem@fujifilm.com)