

Bambanker™

Cell Freezing Media for cultured cells



Universal:

All known cell lines can be stored for 12-24 months at -80°C or in liquid nitrogen. The rate of intact cells after thawing is improved significantly compared to traditional media, especially for sensitive cells.

Fast:

Gradual or programmable freezing is no longer necessary. Cells are spun down in the log growth phase and frozen in 1 ml Bambanker™.

Serum-free:

No risk of contamination and no interactions with serum proteins and your cells.

Stable:

Bambanker™ is stable if stored at 2-10°C for 2 years. The freezing media Bambanker™ offered by the Japanese Genetech company Lymphotec was developed initially just for their own R&D projects. They needed a suitable medium for long-term storage of highly sensitive cell lines, such as lymphocytes.

Thanks to the innovative formulation of the new freezing medium, an European Patent (EP 1347040) was granted and the development of this media was made commercially available. Today this innovative cell freezing media Bambanker™ is the market leader in Japan and many other countries. Bambanker™ freezing media are characterized by many different published articles with very sensitive cell lines all over the world.

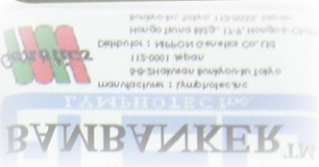
Please contact us (info@nippongenetics.eu) if you would like to receive a list of published papers

European patent
EP 1347040

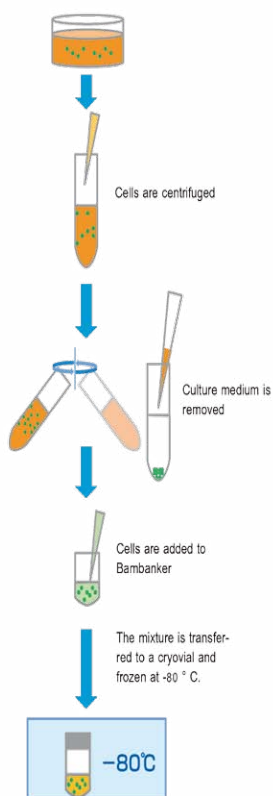


Ordering Information

| Cat. No.: | Product | Content |
|-----------|------------------------|------------------------------------|
| BB01 | Bambanker™ (120 ml) | 120 ml freezing media Bambanker™ |
| BB02 | Bambanker™ (5 x 20 ml) | 5x 20 ml freezing media Bambanker™ |
| BB03 | Bambanker™ (20 ml) | 20 ml freezing media Bambanker™ |



Bambanker



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Bambanker™

Cell Freezing Media for cultured cells

Why serum free media?

The qualitative and quantitative composition of serum may be subject to strong fluctuations and each batch can react differently with specific cell types. In addition possible contamination from mycoplasma, viruses, prions or other viral particles can occur. Unidentified ingredients may interact with the cultured cells, which is especially the case if a very sensitive cell line such as embryonic stem cell is used. With the use of Bambanker™ all these barriers are a thing of the past.

Bambanker published papers for:

- embryonic stem cells
- bone marrow stem cells
- dental stem cells
- Osteoblasts
- PBMC
- primary epithelial cells
- embryonic fibroblasts
- lymphocytes
- pig fetal fibroblasts

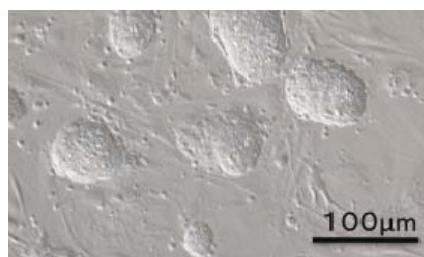
Stabilization of Mouse Embryonic Stem Cells

Conditions

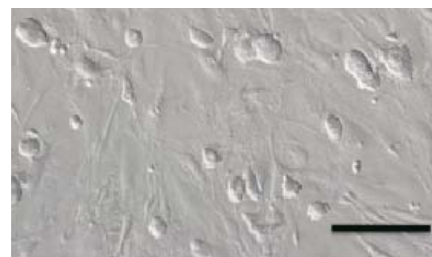
| | |
|--------------------|---|
| Cultivation | 15% FBS/DMEM (1 mM of Sodium pyruvate, 100 µM NEAA, 100 µM of β-ME, 1000 U/ml of LIF) was used as culture media. Mouse Embryonic Fibroblasts (MEF) were used as „feeder cells“. |
| Freezing | Cells were frozen in 5 vials / (60mm dish corresponds to 3.0×10^6 cells/vial). 1 ml/vial of Bambanker™ freezing media was added and the mixture was directly frozen in -80°C. The following day the vials were transferred to liquid nitrogen (slow freezing). |
| Thawing | Cells were incubated at 37 °C, thawed and transferred in cooled culture media. After collection, cells were seeded in 6 well plates and 6 cm dishes. |
| Results | Stabilization of Mouse Embryonic Stem Cells by using Bambanker™ was succesful. Cells were undifferentiated, even after freeze and thaw procedure. No modifications of cells could be observed. Data were kindly provided by Dr. Ahn (Tokyo Institute of Technology Graduate School of Bioscience and Biotechnology Department of Biomolecular Engineering, Tagawa Laboratory, Japan). |

Bambanker™ prevents undesired differentiation

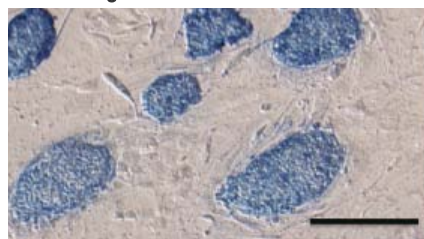
Before freezing:



2 days after thawing:



ALP Staining:



3 days after thawing:

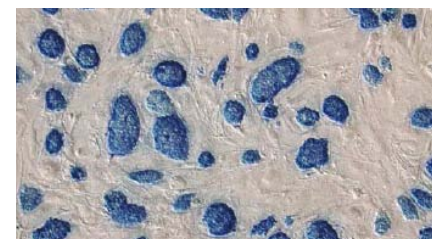
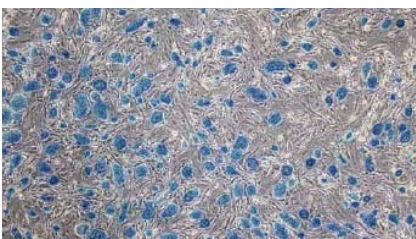


Fig. 1 Cell viability and ALP staining for Pluripotent Stem Cells. Upper Row: A great number of cells are detected two days after thawing. The cells show no morphological change after thawing. Lower Row: Bambanker does not cause cell differentiation as all stem cells frozen down are still producing high levels of alkaline phosphatase, a reporter for pluripotent stem cells.



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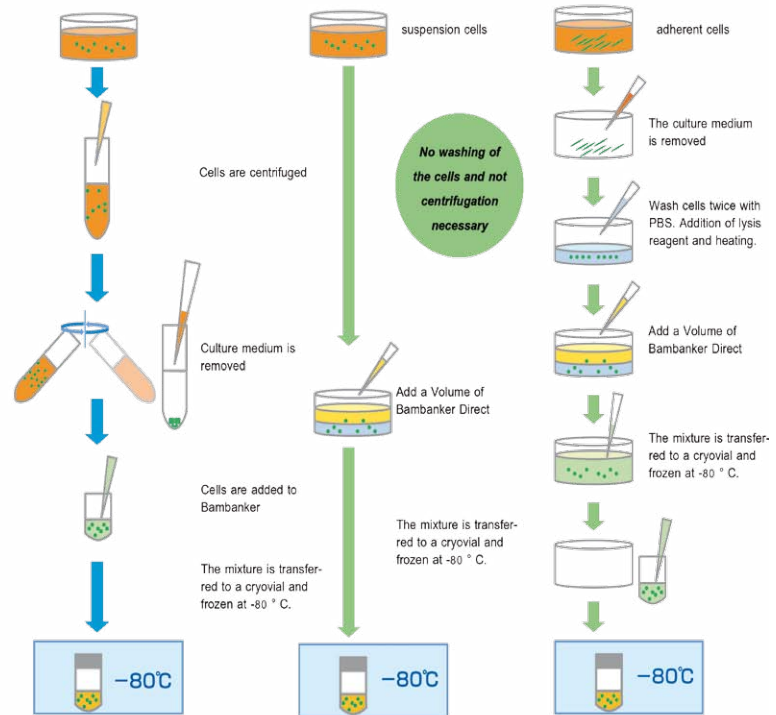


Bambanker™ - Direct

Perfectly suited for hybridoma cells and HTP - applications

Bambanker

Bambanker Direct



Fastest Freezing Media

BAMBANKER™ Direct is a new cell freezing medium, which can be added directly to culture medium after suspending the cells, the user can freeze and preserve the cells in a deep freezer at -80°C. BAMBANKER™ Direct has been modified to not require preparation steps for freezing. This newly developed medium maximizes the work efficiency significantly.

Successfully stabilized Cell lines

- Daudi (human B cell line)
- HEK293; HEK293T (human embryonic kidney cell line)
- HeLa/HeLa S3 (human cervical cancer cell line)
- Jurkat (human leukemia T cell line)
- OKT4 (mouse hybridoma)
- ES (mouse embryonic stem cells)

and many more...

Great Recovery with Bambanker™ Direct

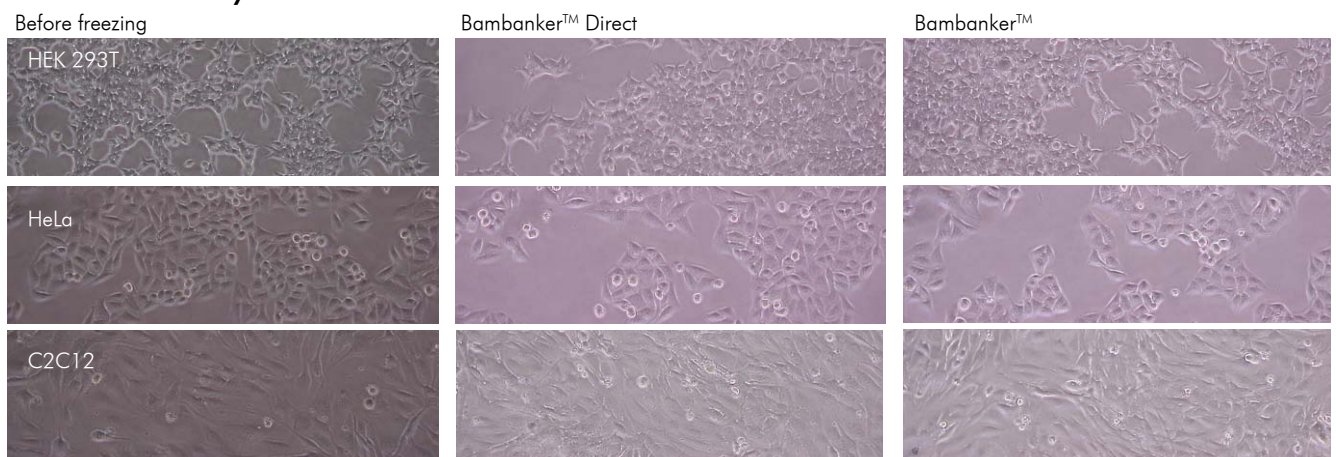


Fig. 1: Three different cell lines before freezing and 12 months after. Cells were stored at -80°C.



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Bambanker™ - HRM

Made with Human Serum Albumin, no animal components (xeno-free)



Cryopreservation, including freezing and thawing, is essential for cell culture technology. Cryopreservation of primate ES and iPS cells is very severe and difficult compared to murine or other cells. To address these problems, NIPPON GENETICS developed a new freezing medium (Bambanker™ HRM) containing Human Serum Albumin and DMSO for primate ES/iPS cells.



The experimental data shown below describe primate ES cells, cryopreserved in Bambanker™ HRM or 10 % DMSO/culture medium by slow-freezing or in a conventional vitrification medium by quick-freezing, and then subsequent storage in liquid nitrogen. After 3 days, the cells were thawed by each adequate protocol, and then plated. These cryopreservation media were analysed by the number of alkaline phosphatase-positive colonies as recovery points. **The recovery points of Bambanker™ HRM directly from liquid nitrogen storage were twice higher than that of vitrification medium and four times than that of 10 % DMSO/culture medium.**

The above described cryopreserved primate ES cells were put on dry ice 24h after three days in liquid nitrogen to mimic the dry ice transport, and then thawed and plated. The recovery percentage of Bambanker™ HRM remained high. Those of traditional vitrification were considerably lower.

These results indicate that Bambanker™ HRM provides efficient cryopreservation and dry ice transportation medium for primate ES/iPS cells.

Moreover, as Bambanker™ HRM is xeno-free and chemically defined.

Cells after Freezing and Thawing:



ALP Staining

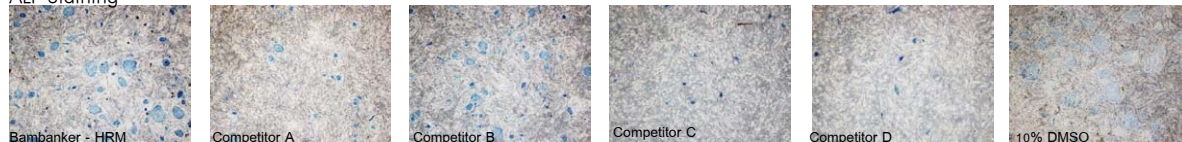


Fig. 1: Cell lines successfully stabilized by Bambanker™ HRM: Human iPS cells; Neuron cell derived from human iPS cell; Liver cell derived from human iPS cell; Heart cell derived from human iPS cell; Kidney cell derived from human iPS cell; Human cell lines; Human primary cell lines; Human T Cells; Primate ES cell

Ordering Information

| Cat.Nr.: | Product | Content |
|----------|-------------------|--|
| BBH01 | Bambanker™ HRM | 20 ml freezing media Bambanker™ - HRM |
| BBD01 | Bambanker™ Direct | 20 ml freezing media Bambanker™ - Direct |



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Bambanker™ - DMSO-Free

The most gentle way to freeze down your cells



Why DMSO free?

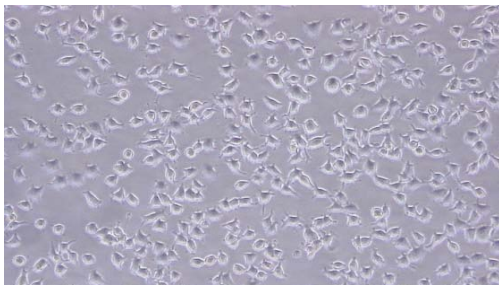
DMSO is a supplement in freezing media to avoid formation of ice crystals, which harm the cells. However, DMSO is cytotoxic and reduces the survival rate of sensitive cell lines. Bambanker™ DMSO Free composition is without DMSO still avoiding the formation of ice crystals, making Bambanker™ DMSO Free especially suitable for cell lines that react sensitive to DMSO.

Successfully stabilized Cell lines

- Jurkat (Floating cells)
- PC12 (Adrenal Pheochromocytoma, Rat) (Adhesive cells)
- HepG2 (Adhesive cells)
- Hela S3 Epithelioid Carcinoma, Cervix, Human (Adhesive cells)
- HEK293T Transformed Primary Embryonal Kidney, Human (Adhesive cells)
- OKT4 (Floating cells)
- Vero P4 (Kidney, African Green Monkey) (Adhesive cells)
- MDCK (Kidney, Canine) (Adhesive cells)
- NIH3T3 (Embryonic Fibroblast, Mouse) (Adhesive cells)

Great Recovery with Bambanker™ DMSO-free

Bambanker™ DMSO-free



Bambanker™

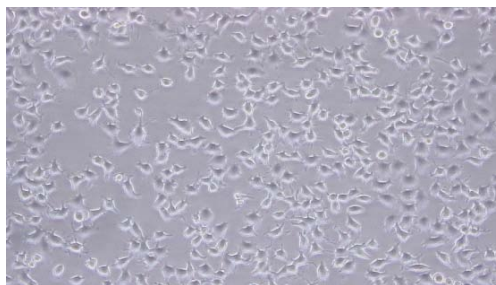


Fig. 1: PC12 cells frozen with Bambanker and Bambanker DMSO-free.

Ordering Information

| Cat.Nr.: | Product | Content |
|----------|----------------------|---|
| BBF01 | Bambanker™ DMSO-free | 20 ml freezing media Bambanker™ - DMSO-free |



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