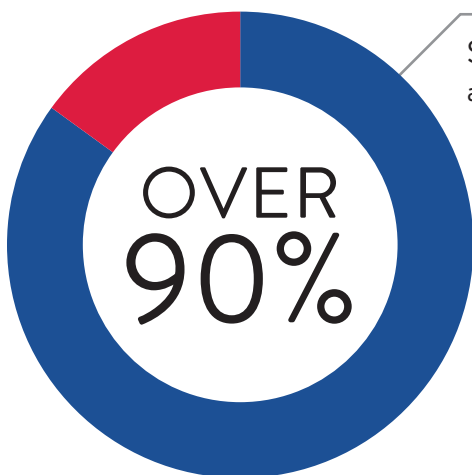


**amsbio**

## **CELLBANKER®** CRYOPRESERVATION



Survival rate of  
all cell types\*

CELLBANKER® is a series of easy-to-use cell freezing media offering superior protection against cell stress during freeze/thaw cycles, allowing successful cryopreservation of all mammalian cell types regardless of their sensitivity.

Available in several formulations to suit your research needs, the CELLBANKER® cryopreservation range delivers high rates of cell viability, and reduces post-thaw necrosis and apoptosis, improving cell function and recovery.

## CELLBANKER® SERIES

### Discover the advantages of CELLBANKER®:

- Consistently high cell viability post thaw (>90%)
- No programmed freezer or liquid nitrogen required
- Long shelf life
- Tested on many cell types
- Freeze directly in -80°C freezer
- Allows viable long term cell storage > 10 years at -80°C or -196°C
- Ready-to-use formulas avoid mixing of DMSO and filtration

### CELLBANKER® 1



CELLBANKER® 1 is a ready-to-use serum containing cell cryopreservation medium designed for a broad spectrum of mammalian cells. This unique formulation allows for stable cryopreservation and high viability after freeze-thaw cycles, even for sensitive cells.

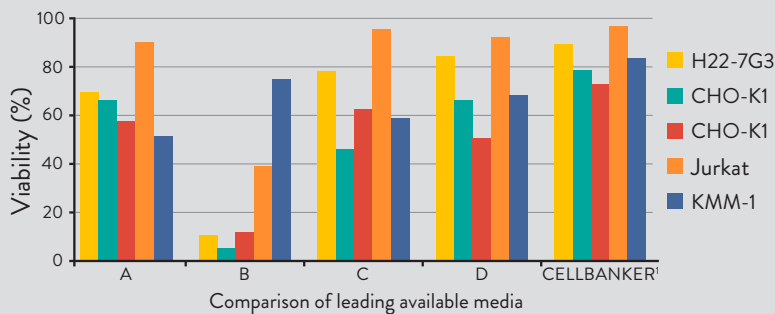
CELLBANKER® 2 is a serum-free cell cryopreservation medium optimised for serum-free cultured cells and peptide/protein expressing cells. CELLBANKER® 2 offers a low cost-animal free cryopreservation media for all applications where risks of contamination must be avoided.

### CELLBANKER® 2



### Typical cell recovery rates for CELLBANKER® 1 and 2

| Cell Type   | Preservation Period (year) | Viability of cells (%) at -80°C |
|-------------|----------------------------|---------------------------------|
| Fibroblasts | 5                          | 90                              |
| Caco-2      | 5                          | 90                              |
| K562        | 5                          | 90                              |
| Jurkat      | 10                         | 90                              |



### Viability Comparative Trial (-80°C, 1 Year Storage)

Comparative Analysis of CELLBANKER® 1 vs. conventional cell cryopreservation method.

The unique formulation allows for stable cryopreservation and high viability after freeze-thaw procedure, even for sensitive cell lines.

**STEM-CELLBANKER®**  
GMP grade

Available DMSO Free

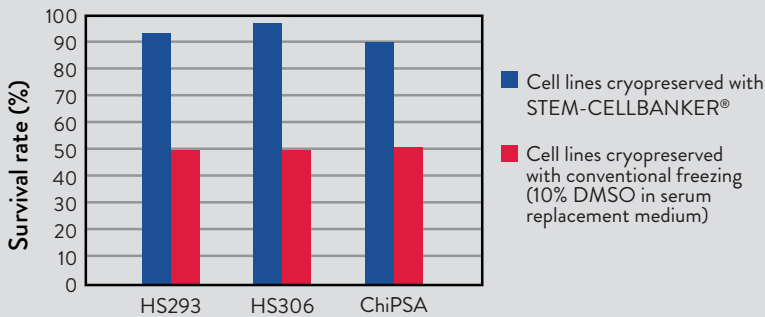


STEM-CELLBANKER® is a chemically defined freezing media optimized for stem cells and iPS cells storage, as well as fragile primary cells. Furthermore, recent data supports its ability to cryopreserve organoids and tissues to allow the recovery of viable cells.

STEM-CELLBANKER® GMP grade is manufactured in compliance with JPN, EU, US, and PIC/S GMP guidelines. Free from animal derived components, and contains only chemically defined USP, EP and JP grade ingredients.

A Drug Master File for STEM-CELLBANKER® has been registered with the Food and Drug Administration (FDA) (MF# 15785).

Available in both DMSO containing and DMSO-Free formulations, STEM-CELLBANKER® is an optimal freezing solution for basic research and clinical application of cell therapy products.



### STEM-CELLBANKER® vs Conventional freezing

Cell viability assessment: trypan Blue & calcein-esterase based live-dead assay.

Result: Significantly higher cell viability was observed while cell pluripotency, normal karyotype and proliferation ability were maintained in HS293, HS306 and ChiPSA cell lines.

*Study by Department of Clinical Science, Intervention and Technology, Karolinska Institute.*

**HSC-BANKER®**

New Release



HSC-BANKER® is an optimized GMP grade cryopreservation medium for hematopoietic stem cells.

Studies show that the HSC-BANKER® is at least equivalent to conventional protocols using DMSO and DEXTRAN.

The results (shown below) of a comparative study on the cryopreservation of hematopoietic stem cells was performed by the Cord Blood Bank of the Japanese Red Cross Society.

| Comparison study in Cord Blood Bank Japan Red Cross Society   |                             |                           |
|---|-----------------------------|---------------------------|
|   | 8% DMSO+0.8% DEXTRAN (N=11) | HSC-BANKER 5% DMSO (N=11) |
| Total Nucleated Cell recovery rate                            | 101.0±5.4                   | 101.9±6.9                 |
| CD34 positive cell recovery rate                              | 80.0±8.8                    | 95.0±14.8                 |
|   | P=0.008                     |                           |
| Total-colony forming unit recovery rate                       | 85.8±12.4                   | 95.7±16.8                 |
| Colony forming unit-granulocyte macrophage recovery rate      | 92.7±17.9                   | 92.3±21.5                 |
| Viable cells recovery rate (by fluorescence microscope AO/EB) | 88.6±7.9                    | 86.8±2.9                  |
| Viable cells recovery rate (Flow Cytometry) CD45              | 71.4±9.8                    | 74.0±6.4                  |
| Viable cells recovery rate (Flow Cytometry) CD34              | 99.1±0.8                    | 99.4±0.7                  |

## Featured References

- Nature Methods 2017 May 14:743-751  
Fused cerebral organoids model interactions between brain regions.
- Stem Cell Research & Therapy 2016 Jan 12;7:8  
Biological impact of xeno-free chemically defined cryopreservation medium on amniotic epithelial cells.
- Stem Cell Research & Therapy 2015 Sep 6:162  
Transplantation of cultured dental pulp stem cells into the skeletal muscles ameliorated diabetic polyneuropathy: therapeutic plausibility of freshly isolated and cryopreserved dental pulp stem cells
- Sci Rep 2014 Jan 8;4:3594  
A novel efficient feeder-free culture system for the derivation of human induced pluripotent stem cells.
- Nat Protoc. 2014 Oct;9(10):2354-68  
Monolayer culturing and cloning of human pluripotent stem cells on laminin-521-based matrices under xeno-free and chemically defined conditions.

| Description                          | Pack Size | Catalogue No. |
|--------------------------------------|-----------|---------------|
| CELLBANKER® 1 - Serum containing     | 20 ml     | 11889         |
| CELLBANKER® 1 - Serum containing     | 100 ml    | 11888         |
| CELLBANKER® 2 - Serum free           | 20 ml     | 11892         |
| CELLBANKER® 2 - Serum free           | 100 ml    | 11891         |
| STEM-CELLBANKER® - GMP               | 20 ml     | 11897         |
| STEM-CELLBANKER® - GMP               | 100 ml    | 11890         |
| STEM-CELLBANKER® - GMP - DMSO - Free | 20 ml     | 11897F        |
| STEM-CELLBANKER® - GMP - DMSO - Free | 100 ml    | 11890F        |
| HSC-BANKER® - GMP                    | 15ml      | 11900         |
| CELLOTION® Cell Wash Solution        | 100ml     | 11898         |

\*For full list of cell types tested please contact AMSBIO.

AMSBIO is the global source for CELLBANKER® reagents. CELLBANKER® is a registered trade mark of and manufactured by NIPPON ZENYAKU KOGYO.

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