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BioVerde

Cryopreservation medium for various cells!

DMSO / Serum / Protein / Xeno - free

CryoScarless DMSO-free

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DMSO-free | Serum-free | Protein-free | Xeno-free

CryoScarless DMSO-free is a cryopreservation medium for a variety of cells and cell lines. This media does not contain protein or DMSO. This increases the cell viability after thawing and importantly allows stem cells to remain in an undifferentiated state.

MEMO

Problem of DMSO in cryopreservation medium

DMSO is the cryoprotectant component in most cell preservation media. However, DMSO is also known as a hazardous component for the human body, especially due to the toxicity and high absorption rates when contacted with the skin. Moreover, several papers indicate that the DMSO affects cell differentiation. To obtain accurate experimental data, storage under DMSO free conditions is required.

- HL-60 cell line differentiates into granulocytes by DMSO[1]
- Mouse bone marrow mesenchymal stem cells differentiate into cardiomyocytes by DMSO[2]
- Human ES cells Oct-4 expression is lowered by DMSO containing cryopreservation medium[3]

1. Jiang, G., *et al., Int. Immunopharmacol.*, **6** (7), 1204-1213 (2006).
2. Young, D. A., *et al., Biochem. Biophys. Res. Commun.*, **322** (3), 759-765 (2004).
3. Katkov, I. I., *et al., Cryobiology*, **53** (2), 194-205 (2006).

Features

- Serum-free and DMSO-free formulation.
- High cell viability, and no risk of either DMSO cytotoxicity or contamination by serum-derived proteins.
- Consistent and high cell viability after thawing (> 90% for most of the cell lines).
- Maintaining stem cell pluripotency after thawing.
- Free of bacteria, fungi and mycoplasma contamination.
- Long shelf life. The product is stable for 2 years at 4℃ after the date of manufacture.

Trial Sample available!

Small size trial sample (20 mL) is available. Please contact your local distributors.

Cryopreserving Protocol

1. Pellet cultured cells by centrifugation and remove the supernatant.
2. Suspend the cells with CryoScarless DMSO-free medium (1 ml for 5 x 10^5 - 10^6 cells). Dispense the cell suspension in 1 ml aliquots to cryopreservation vials.
3. Transfer the vials to -80℃ deep freezer. *

* For long-term cryopreservation, transfer the vials to liquid nitrogen storage tank.

Thawing Protocol

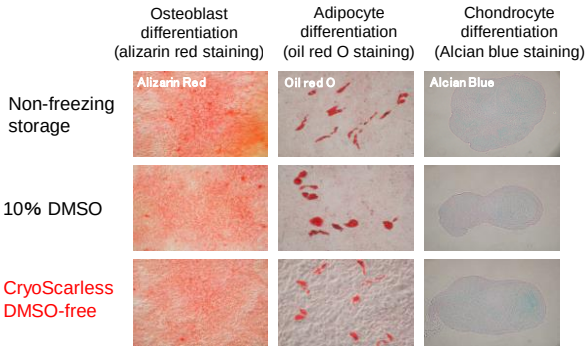
Remove the cryopreserved cell from storage and quickly thaw in 37℃ shaking water bath. Immediately dilute with media and gently mix each.

Application Example

Cell Type	Viability (%)
L929	97.5 ± 1.2
MG63	93.1 ± 2.3
HT1080	90.2 ± 4.3
Colon26	92.3 ± 2.3
B16F1	94.2 ± 0.6
KB	91.8 ± 0.9
Caco2	93.7 ± 1.9
MC3T3	94.4 ± 0.5
Jurkat E6-1	88.4 ± 2.5
HUVEC	89.9 ± 0.4
HCAEC	90.1 ± 1.6
MEF	94.4 ± 0.8
hACh	93.5 ± 0.7

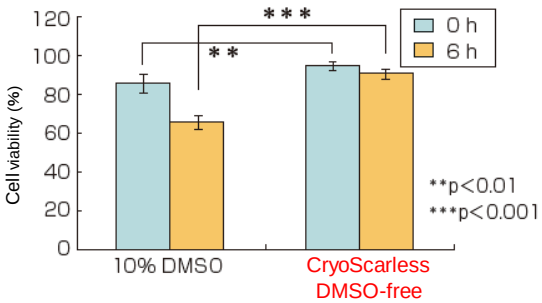
Experimental results are on next page. ➡

Experimental Results



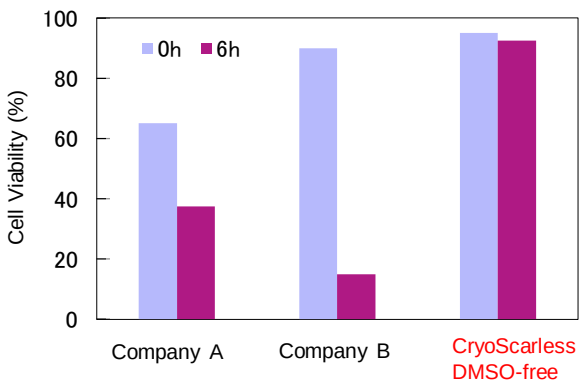
Differentiation of rat mesenchymal stem cells after thawing.

The results showed that cell pluripotency was maintained after thawing in rat mesenchymal stem cells cryopreserved in CrvoScarless DMSO-free.



Cell viability of rat mesenchymal stem cells after thawing.

Cell viability after cryopreservation with CryoScarless DMSO-free was significantly higher than cells cryopreserved in 10% DMSO. 0 h : immediately after thawing, 6 h : after cell adhesion



Comparison data with competitors (DMSO-free)

Company A : DMSO and Serum-free, Company B : DMSO and Serum-free, contains sericin. Viability decreases in product A and B, however, CryoScarless DMSO-free has high cell viability even after 6 hours.

User's Voice

A simple method for cryopreservation of Mouse ES cell using CryoScarless DMSO-free.

(Provided by : Kumamoto University Institute of Molecular Embryology and Genetics, Division of Stem Cell Research, Department of Cell Differentiation Dr. Kiyomi Tamura)

【Method】

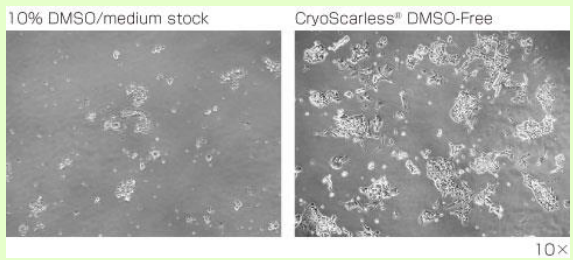
Mouse ES cells (FKHR +/+) were on gelatin coated 96 well plates and incubated at 37℃. After 48 hours, culture medium was aspirated and cells were washed with PBS, and filled with CryoScarless DMSO-Free or 10% DMSO / medium. Then cells on the culture plates were simply cryopreserved at -80℃. After 24 hours, cells were quickly thawed and added 37℃ -prewarmed cell culture medium, and cells were incubated for 6 hours at 37℃. After the incubation, cells were observed by a phase-contrast microscopy.

【Result】

It shows that cell viability after cryopreservation with CryoScarless DMSO-free (right) was higher than cells cryopreserved with 10% DMSO (left).

【Conclusion】

CryoScarless DMSO-free is useful for direct cryopreservation of cells on cell culture plates.



Professor Minetaro Ogawa (Center), Assistant Professor Kiyomi Tamura (Second from the right) and lab members.

Product Information

[Manufacturer : BVD]

Product Name	Size	Catalog #	Storage
CryoScarless DMSO-free	100 mL	CPL-A1	4℃

NOTE

※ All products here are research use only, not for diagnostic use.
※ Specs might be changed for improvement without notice.
※ Company name and product name are trademark or registered mark.
※ Please contact your local distributors for orders, quote request and inquiry.

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