

## Serum-Free Cell Freezing Medium

# Cell Reservoir One

### Description

Cell Reservoir One is a serum-free cell culture freezing medium, which contains a water-soluble glycoprotein SERICIN isolated from the silkworm cocoon as a major constituent. SERICIN shows the same high efficacy of cryopreservation as FBS, and reduces the cell toxicity of DMSO.

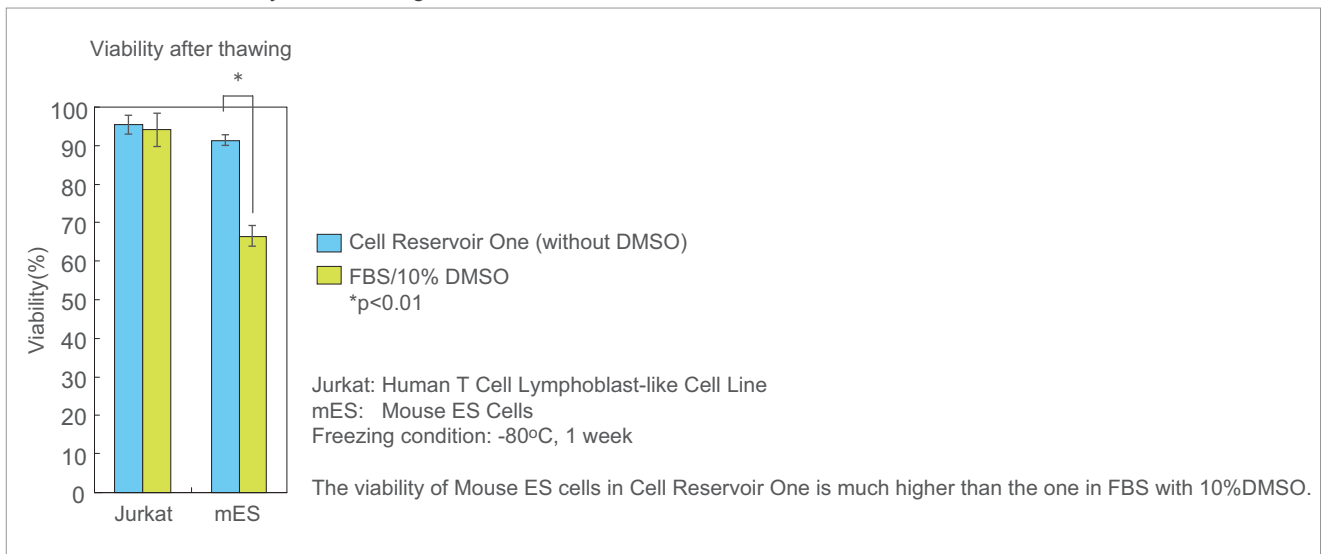
As DMSO is known to have adverse effects on cellular functions, especially Embryonic Stem Cells, Cell Reservoir One is available both with and without DMSO.

### Features

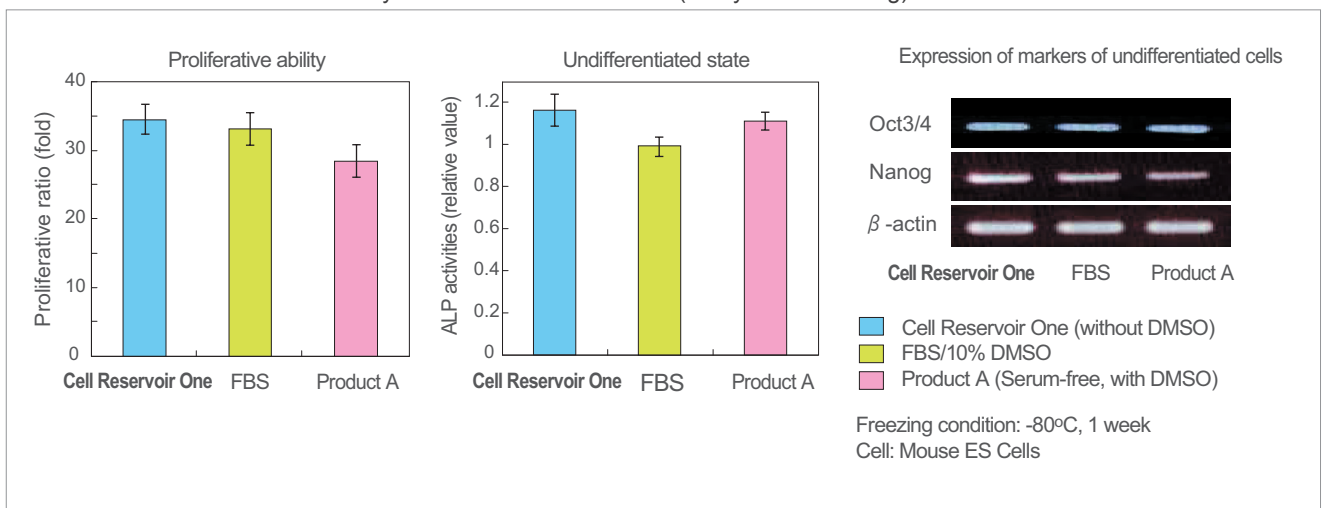
- Ready-to-use solution
- Serum-free with no animal derived components
- High cell recovery and viability
- Applicable to ES cells (without DMSO)

### Application 1

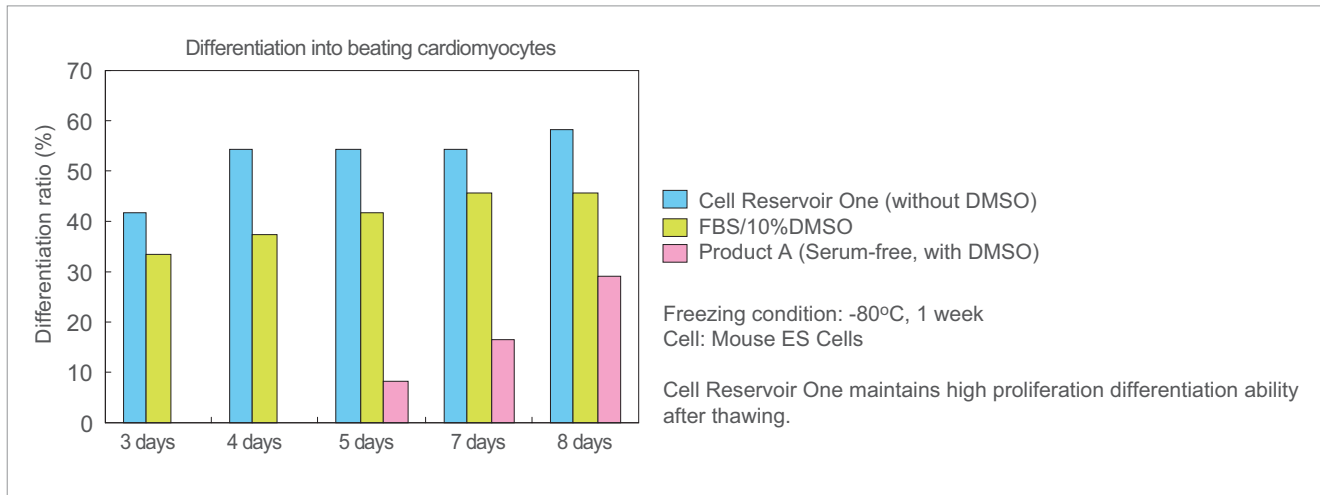
#### Mouse ES Cells: Viability after thawing



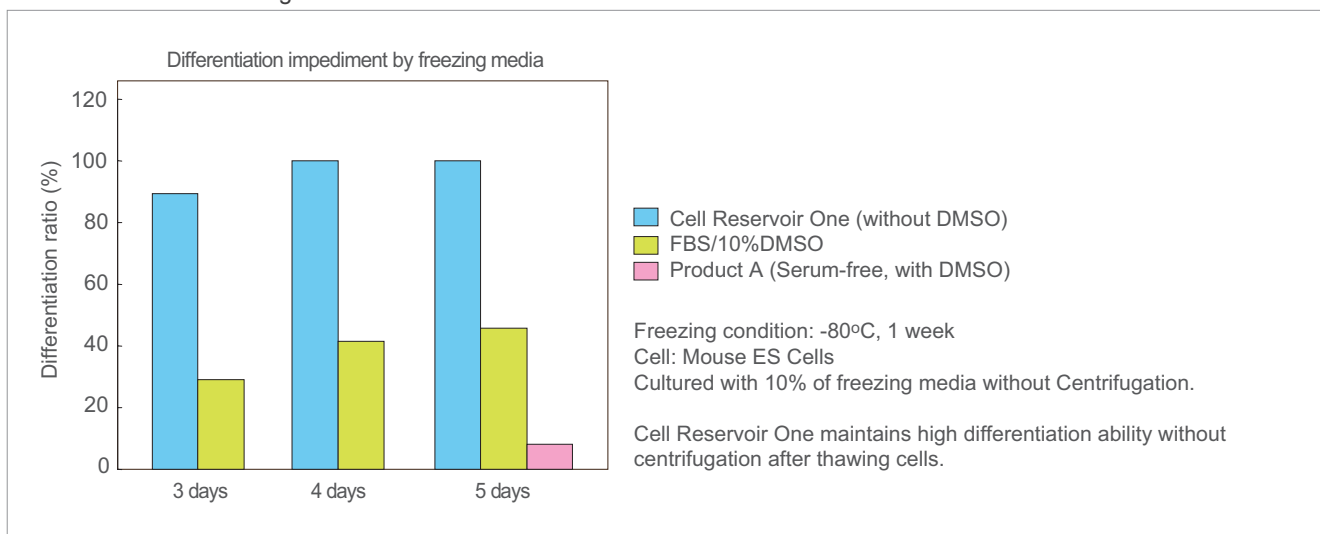
#### Mouse ES Cells: Proliferative ability and undifferentiated state (3 days after thawing)



## Mouse ES Cells: Differentiation into Beating Cardiomyocytes

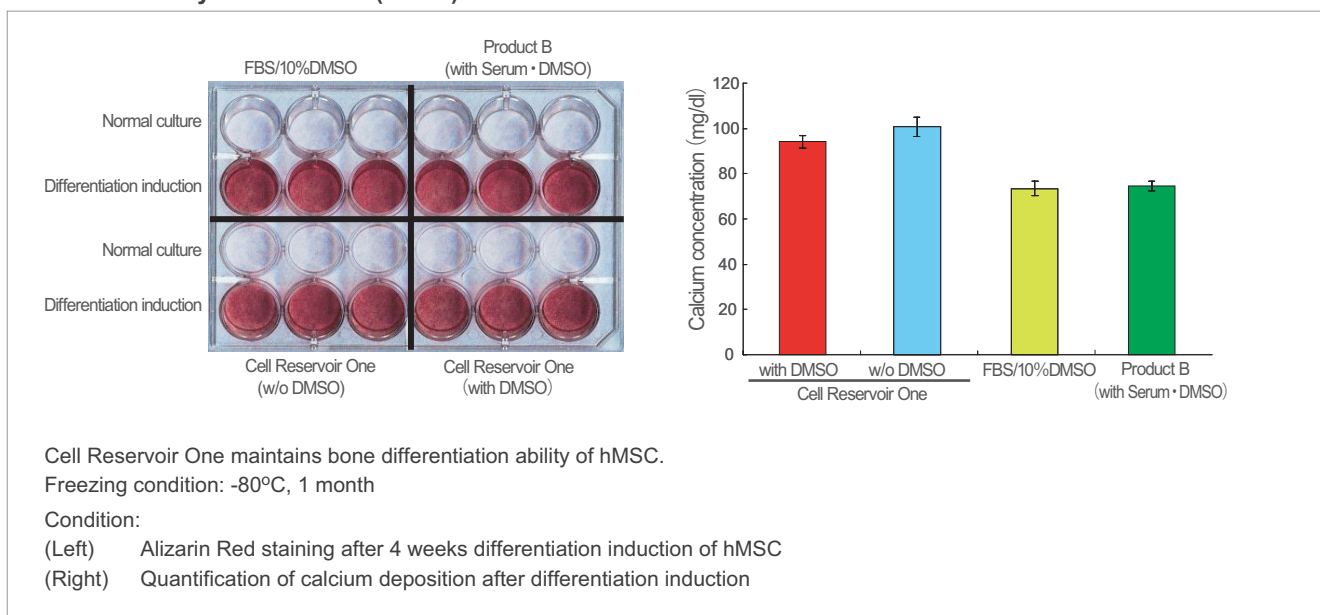


## Mouse ES Cells: Freezing Media Affect the Differentiation



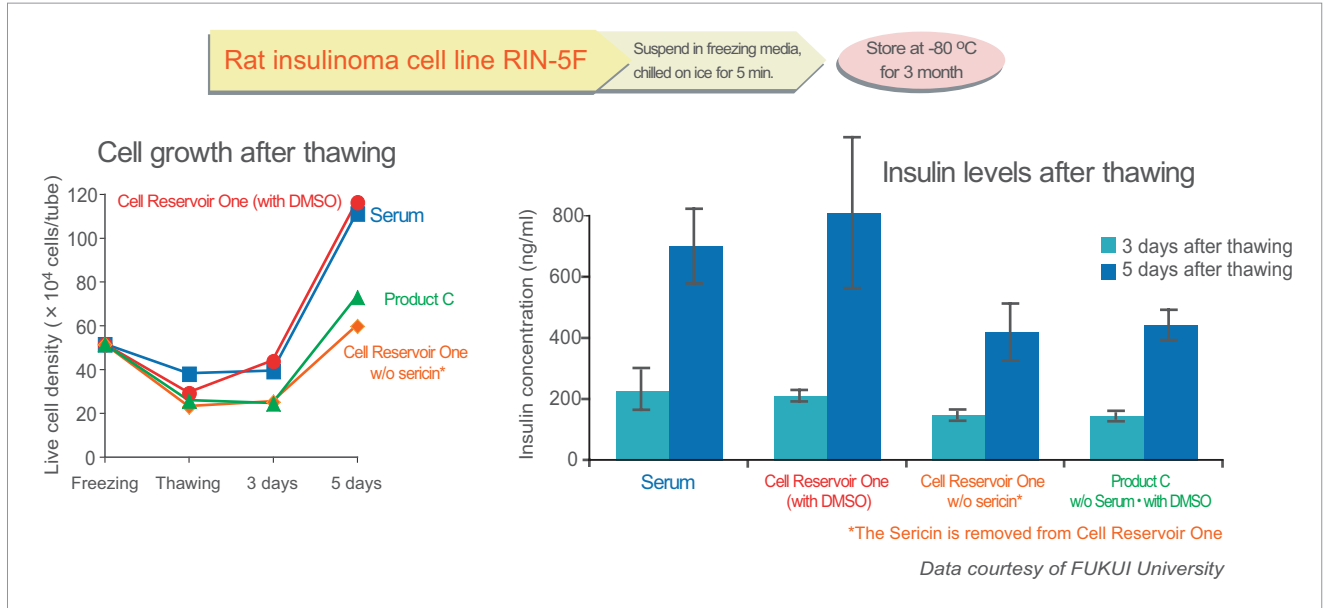
## Application 2

### Human Mesenchymal Stem Cell (hMSC): Bone Differentiation

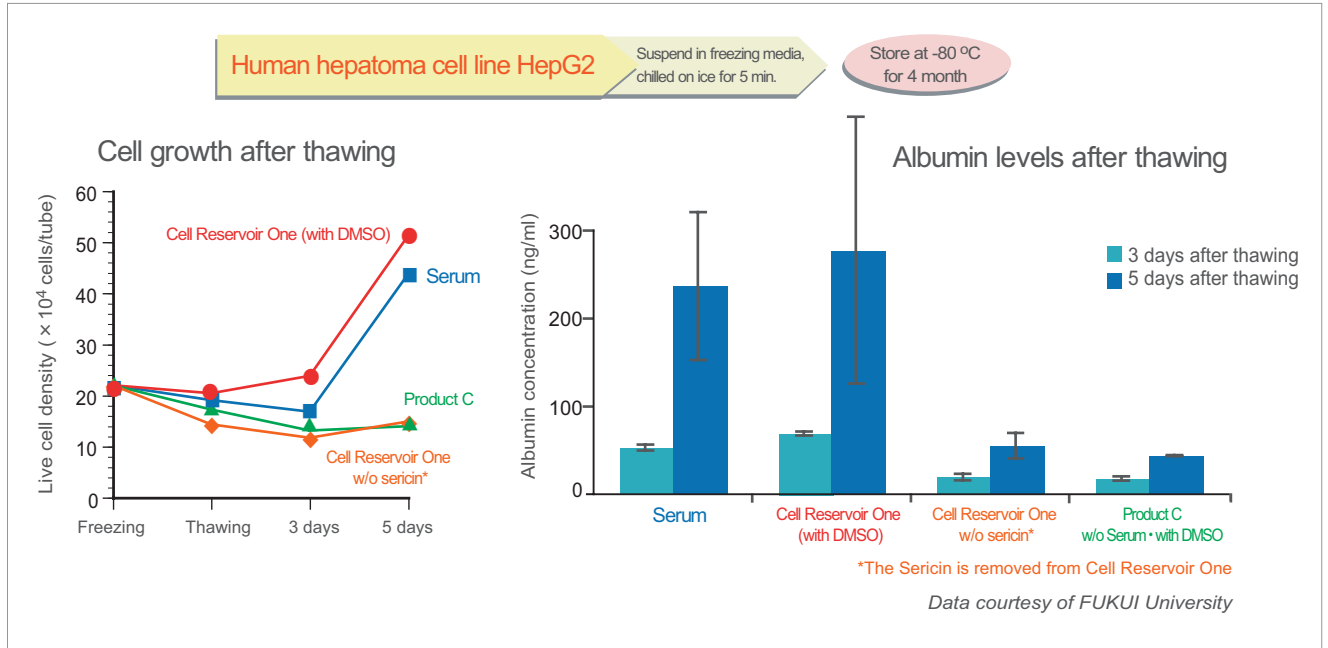


### Application 3

#### Pancreatic Islet Transplantation Model



#### Bioartificial Liver Model



## Cell Viabilities in Cell Reservoir One with DMSO and without DMSO

Animal Species	Cell Species	Derivation	Freezing Period	Viability Rate (%)	
				with DMSO	without DMSO
Human	Jurkat	Blood	1 year	90	85
Human	HL-60	Blood	1 year	90	80
Human	WIL2-NS	Spleen	1 year	90	70
Human	MSC	Bone Marrow	1 year	90	70
Human	HeLa	Uterine Cervix	1 year	90	80
Human	HepG2	Liver	1 year	85	70
Human	NHDF	Normal Dermis	1 year	90	75
Mouse	KUSA-A1	Bone Marrow	9 months	90	80
Mouse	2E3-O	Hybridoma	1 year	90	80
Mouse	P3U1	Bone Marrow	1 year	90	80
Mouse	OP9	Skullcap	10 months	95	85
Mouse	ES	Embryo	1 year	80	90
Rat	PC-12	Adrenal Gland	1 year	90	70
Hamster	CHO	Ovary	1 year	95	90
Rabbit	RC4	Cornea	1 year	90	70
Insect	Sf-9	Ovary	1 year	75	70

## Protocol

### [Freezing]

1. Collect culture cells at their logarithmic growth phase.
2. Suspend  $5 \times 10^5$  -  $1 \times 10^7$  cells in 1 ml of Cell Reservoir One, and dispense the cell suspension in cryogenic vials.
3. Freeze the cells at  $-80^\circ\text{C}$  without preliminary freezing. The cells frozen at  $-80^\circ\text{C}$  can be subsequently preserved in liquid nitrogen.

### [Recovery]

1. Remove the frozen vial from cryopreservation storage and rapidly thaw it in a  $37^\circ\text{C}$  water bath.
2. Gently dilute the cells with cell culture medium by mixing.
3. Centrifuge the cell suspension and remove the supernatant\*, and resuspend the cells in culture medium.

\*Centrifugation step may be omitted in the case Cell Reservoir One without DMSO is used for ES cells.

## Ordering Information

Product Name	Grade	Storage	Product No.	PKG Size
Cell Reservoir One Trial Set (w/ DMSO & w/o DMSO)	SP	R	09550-01	1 set (10 ml each)
Cell Reservoir One (with DMSO)	SP	R	07485-44	100 ml
Cell Reservoir One (without DMSO)	SP	R	07579-24	100 ml

(Storage) R: Refrigerator

For research use only, not intended for diagnostic or drug use.

## NACALAI TESQUE, INC.

Nijo Karasuma, Nakagyo-ku, Kyoto 604-0855 JAPAN

TEL : +81-(0)75-251-1730

FAX : +81-(0)75-251-1763

Website : www.nacalai.com

E-mail : info.intl@nacalai.com