



# OptiVitro® Serum-free Cell Cryopreservation Medium



## **OptiVitro**®

### **Serum-free Cell Cryopreservation Medium**

### Product overview

OptiVitro® Serum-free Cell Cryopreservation Medium is designed for mammalian cell cryopreservation at ultra low temperatures (-80°C to -196°C) with ready-to-use. The medium maximizes post-thaw cell recovery and viability, with the perfect replacement for cryopreservation containing serum.

#### Product features

- Serum-free and animal-component free
- High post-thaw viability and recovery
- The cryopreservation of multiple human and animal cell types
- Ready-to-use

Product	Contains	Cell Types	Area of Interest
OptiVitro® Serum-free Cell Cryopreservation Medium	Protein and 10%DMSO	Multiple mammalian cells  Free of external pollution	Universal
OptiVitro® Protein-free, CD Cell Cryopreservation Medium	10%DMSO and protein-free		Free of external pollution
OptiVitro® DMSO-free Cell Cryopreservation Medium	DMSO-free and protein-free	Stem cells and other adherent cells	Stem cell cryopreservation
OptiVitro® Serum-free Cell Cryopreservation Medium UC04	7.5%DMSO and protein-free	Immune cells and other mammalian cells	Safety for cell therapy

### Product information

Catalog NO.	Size	Product	Shelf life
VUC00-N011	100mL	OptiVitro® Serum-free Cell Cryopreservation Medium	2-8°C,18months
UC000-N011	100mL	OptiVitro® Protein-free, CD Cell Cryopreservation Medium	2-8°C,18months
UC000-N031	100mL	OptiVitro® DMSO-free Cell Cryopreservation Medium	2-8°C,12months
<i>NEW</i> UC000-N056	100mL	OptiVitro® Serum-free Cell Cryopreservation Medium UC04	2-8°C,18months

<sup>\*</sup> Provide customized services



# OptiVitro® Serum-free Cell Cryopreservation Medium Cat# VUC00-N011



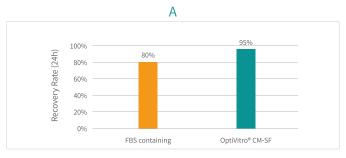
**Contain protein** 

Universal

Non-programmable

Long-term cryopreservation

#### lacksquare High post-thaw viability and recovery, comparable to the cryopreservation containing serum



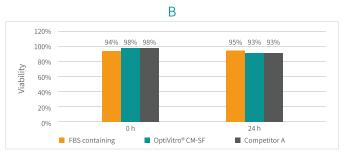
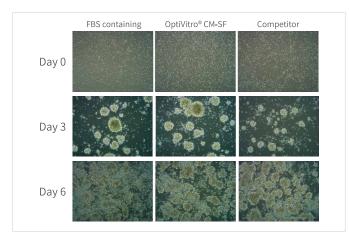
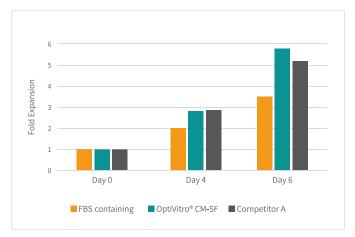


Figure A. The cryopreservation maximizes post-thaw recovery rate up to 95% for PBMC Figure B. The cryopreservation maximizes post-thaw viability up to 90% for PBMC

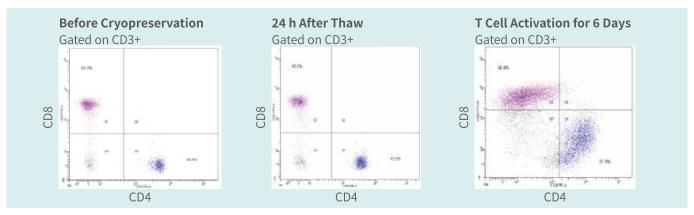
#### Not injure cell efficiency, maintain cells activity and function





A. Cell morphology of T cells after activation on day 0, 3, 6 B. Cell prolif

B. Cell proliferation of T cells after activation

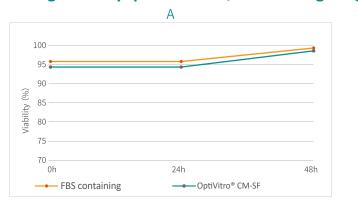


C. Detection of CD4 and CD8 expression in CD3+ T cells by flow cytometry

Figure A.T cells grow normally after PBMC is activated by CD3/CD28
Figure B.T cells expanded well after PBMC activated
Figure C.The expression of CD4 and CD8 in CD3 cells is normal after thawing T cells



#### Long-term cryopreservation, maintaining a high cell recovery rate



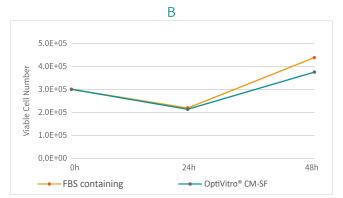


Figure A. The cell viability is consistent with the cryopreservation containing serum for 15 months of storage Figure B. The proliferation is no different from the cryopreservation containing serum after thawing

# 02

# OptiVitro® Protein-free,CD Cell Cryopreservation Medium Cat# UC000-N011



**Protein-free** 

**Animal component-free** 

Non-programmable

Long-term cryopreservatio

### Protein-free, the performance is still comparable to the cryopreservation containing serum





В

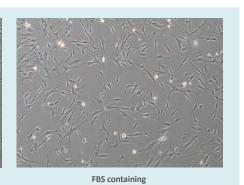


Figure A. The morphology of MSC is consistent with serum-containing cryopreservation after thawing

110
100
90
80
70
40
30
20
10
0h
24h
48h

FBS containing Competitor OptiVitro® CM-CD

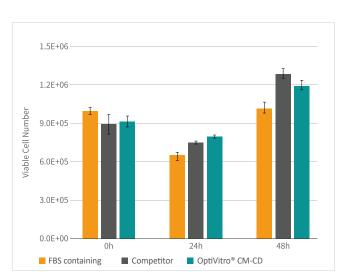
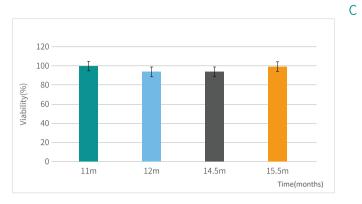


Figure B. The viability of MSC is up to 95% on 0h, 24h, and 48h after thawing, and the performance is not inferior to competitor

#### Long-term cryopreservation still maintains cells high recovery and viability



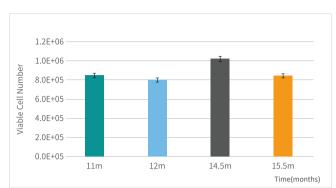


Figure C. The frozen MSC were thawed after 11, 12, 14.5 and 15.5 months, and kept high recovery and viability



# OptiVitro® DMSO-free Cell Cryopreservation Medium Cat# UC000-N031



DMSO-free

Low cytotoxicity

Stem cell cryopreservation

#### DMSO-free, the performance is still comparable to the cryopreservation containing serum

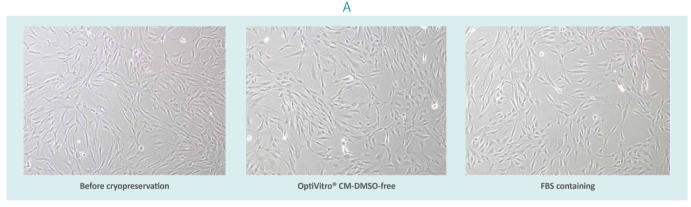


Figure A. The morphology of MSC is consistent with the cryopreservation containing serum after thawing

#### **▼** The cell viability and proliferation is comparable to serum-containing cryopreservation

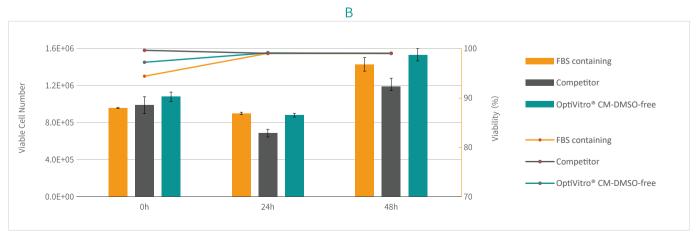


Figure B. The viability of MSC is up to 95% on 0h, 24h, and 48h after thawing, and the performance is not inferior competitor





# OptiVitro® Serum-free Cell Cryopreservation Medium UC04 Cat# UC000-N056



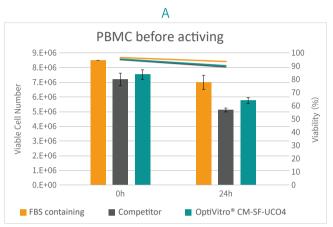
Protein-free

**Low DMSO** 

**Cell therapy** 

#### High efficiency on cryopreservation, More safety in therapy

#### The cryopreservation protects PBMC from injury after thawing, while keeping cells viability and function



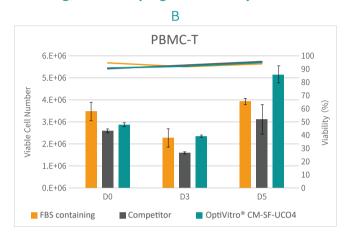
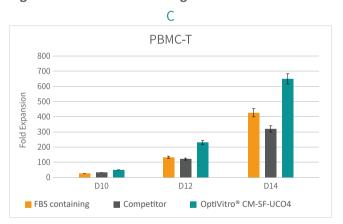


Figure A. PBMC maintain cell high recovery and viability after thawing Figure B. PBMC can achieve good activation of T cells after thawing



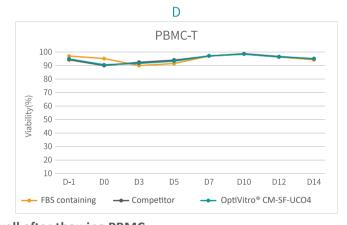


Figure C. T cells activated from frozen PBMC proliferate well after thawing PBMC Figure D. T cells activated from frozen PBMC maintain high viability growth after thawing PBMC

FBS containing

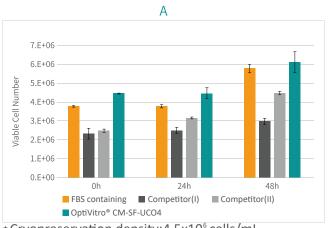
Competitor

OptiVitro® CM-SF-UCO4

Figure E. Normal morphology of T cells activated from frozen PBMC

<sup>\*</sup>Cryopreservation density:8x10<sup>6</sup> cells/mL

#### NK cells maintain high viability and proliferation after thawing



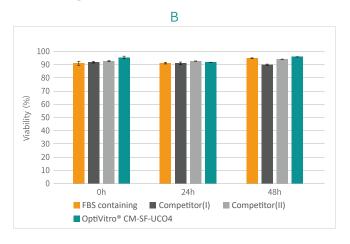
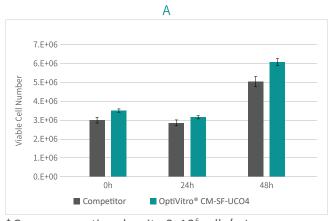


Figure A. NK cells recovery rate is comparable to serum-containing cryopreservation Figure B. NK cells maintain high viability after thawing

#### T cells maintain high viability and proliferation after thawing



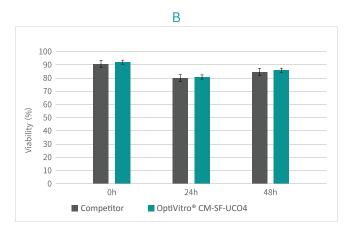
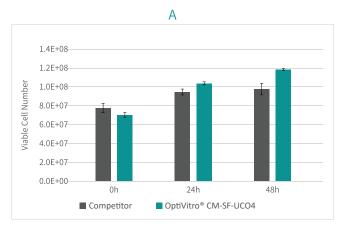


Figure A. T cells can achieve a high recovery rate and expansion

Figure B. T cells maintain high viability after thawing

#### High density frozen immune cells, and maintain high vitality after thawing(Frozen density:1x10° cells/mL)



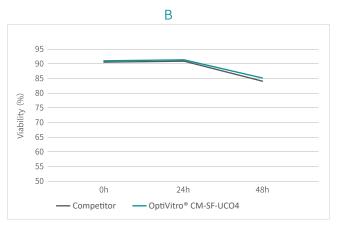


Figure A. After the recovery of high-density frozen NK cells, the recovery rate is not inferior to competitor Figure B. High-density frozen NK cells still maintain high viability after recovery

<sup>\*</sup> Cryopreservation density: 4.5x10<sup>6</sup> cells/mL

<sup>\*</sup> Cryopreservation density:3x10<sup>6</sup> cells/mL



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