



CS-PM-D1 (10% DMSO, 100mL/bottle)

For the cryopreservation of whole blood, leukopak, PBMC, CBMC and buffy coat

Product Specifications

- Ready-to-use
- Ice-controlling Technology
- cGMP-manufactured with pharmacopeia ingredients
- Chemically Defined
- Freeze directly in -80°C freezer when working with small volumes
- Endotoxin < 0.5 EU/mL

Recommended Cell Density and Post-Thaw Performance

Density	Post-Thaw Viability		Viable Cell Recovery Rate
	3 Days	6 Months	
1 × 10 ⁶ – 1 × 10 ⁸ cells/mL	> 90%	> 90%	> 85%



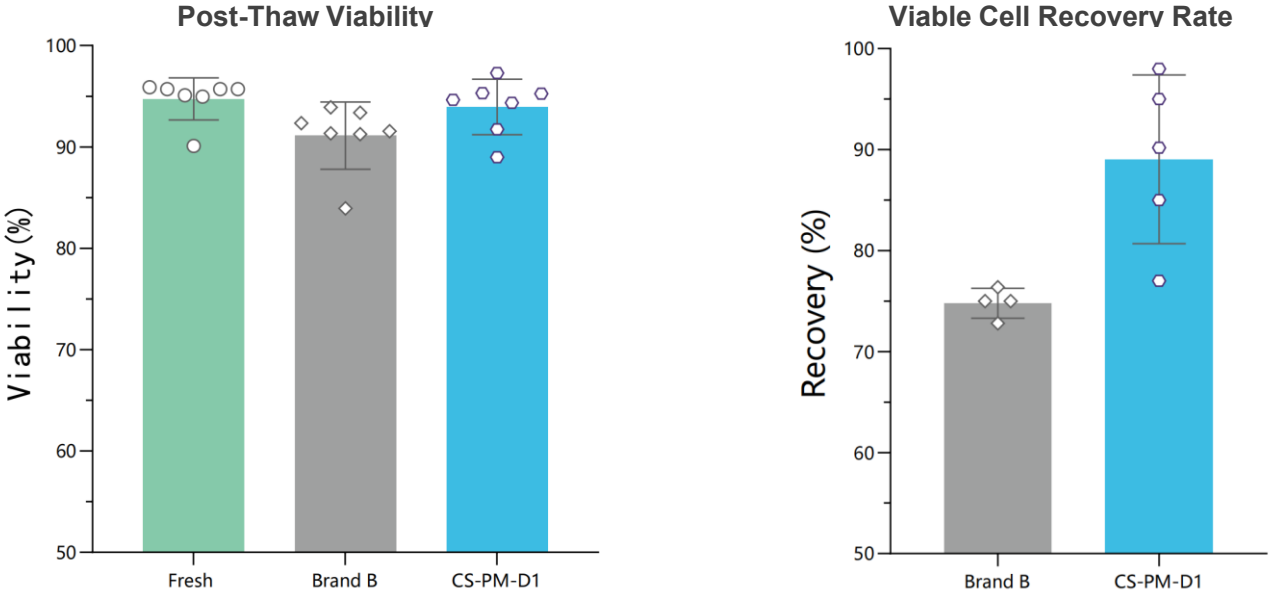
Shelf Life: 12 months

Storage Temperature: 2°C - 8°C



Product Name: PBMC Cryopreservation Medium
Cat.: CS-PM-D1
Cell Type: PBMC

Post-Thaw Viability and Recovery of PBMC



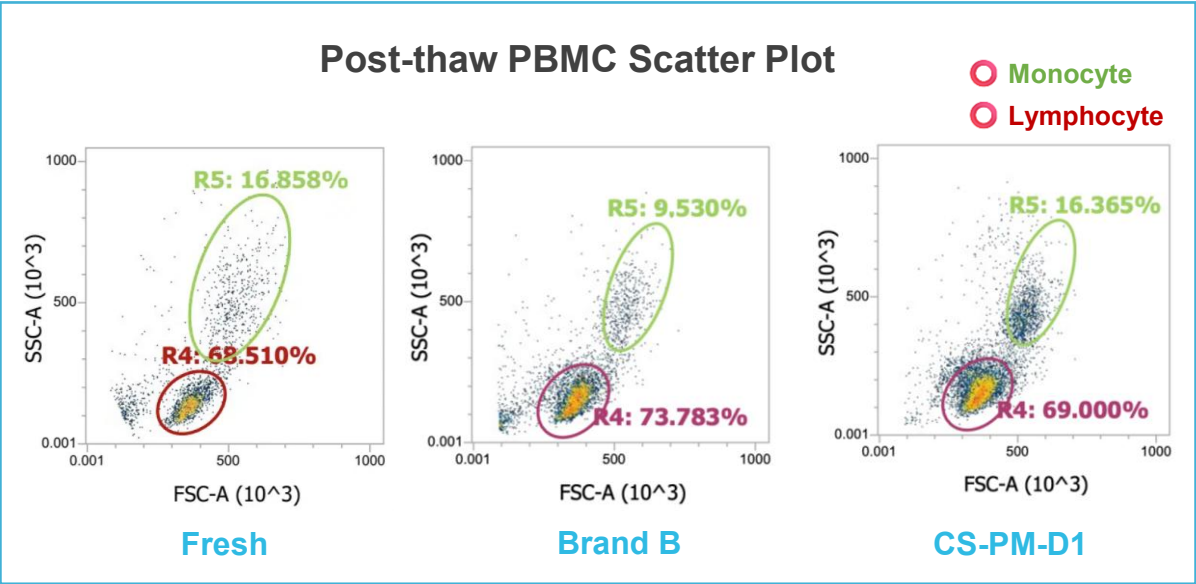
Freezing Density: 5×10^7 cells/mL; PBMCs from seven donors

Note: Brand B refers to CryoStor® CS10

CS-PM-D1 delivers post-thaw cell viability comparable to fresh cells and higher than Brand B, with improved live cell recovery.

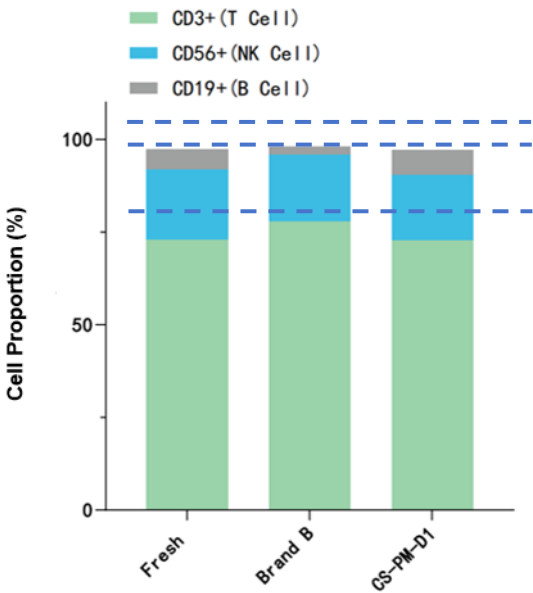


Product Name: PBMC Cryopreservation Medium
Cat.: CS-PM-D1
Cell Type: PBMC



Freezing Density: 5×10^7 cells/mL; immunophenotype analyzed by flow cytometry
Note: Brand B refers to CryoStor® CS10

Post-thaw Immune Cell Analysis (T/B/NK)



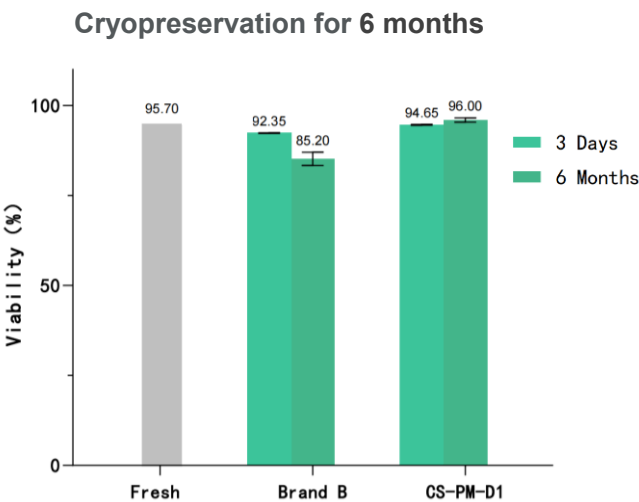
After thawing, the subset proportions in the CS-PM-D1 group were comparable to Fresh samples.



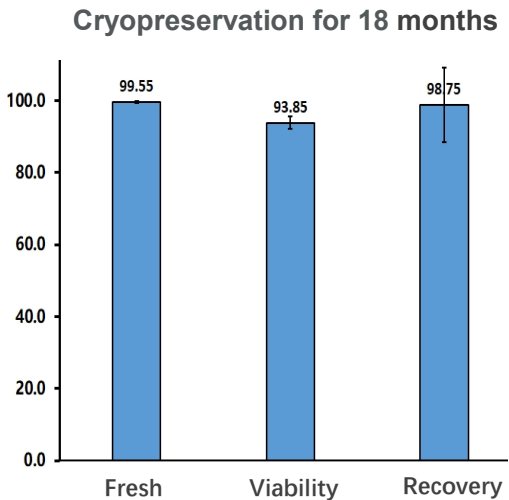
PBMC Cryopreservation

Product Name: PBMC Cryopreservation Medium
Cat.: CS-PM-D1
Cell Type: PBMC

Post-Thaw Viability After Long-Term Cryopreservation of PBMC



Freezing Density: 1×10^7 cells/mL;
Note: Brand B refers to CryoStor® CS10



Freezing Density: 4×10^7 cells/mL;

CS-PM-D1 supports long-term cryopreservation with excellent performance.

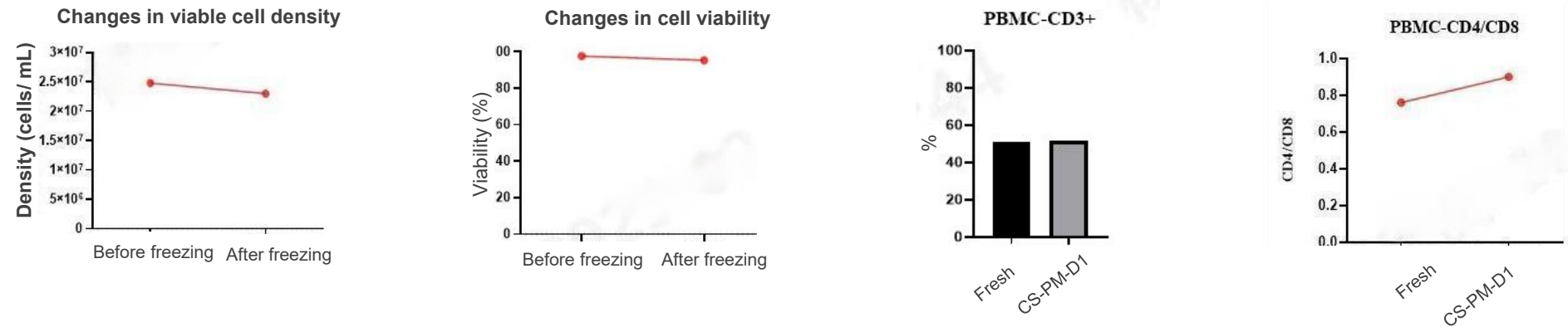
Product Name: PBMC Cryopreservation Medium

Cat.: CS-PM-D1

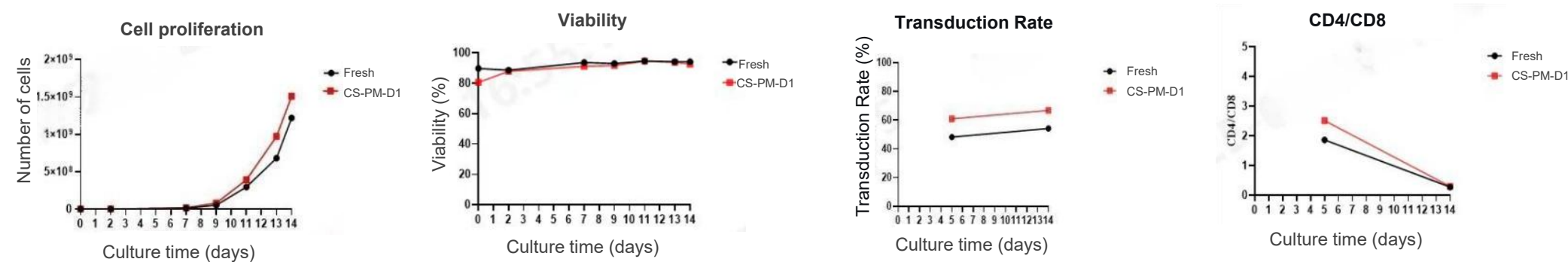
Cell Type: PBMCs isolated from Leukopak

Pipeline: CAR-T

Stable post-thaw cell density, viability and Phenotype



Post-thaw CAR-T generation equivalent to fresh



Product Name: PBMC Cryopreservation Medium
Cat.: CS-PM-D1
Cell Type: Leukapheresis sample

Leukapheresis Sample Cryopreservation Test – Post-Thaw Viability and Yield

	Parameters	Donor 1		Donor 2	
		CS10	CS-PM-D1	CS10	CS-PM-D1
Fresh	Viable Cell Density (cells/mL)	9.07E+07		7.92E+07	
	Theoretical Freezing Density (cells/mL)	4.54E+07		3.96E+07	
	Total Viable Cells	9.08E+08		7.92E+08	
	Viability (%)	99.60%		99.30%	
	T/WBC Ratio (%)	53.45%		51.56%	
Post-Thaw	Viable Cell Density (cells/mL)	4.83E+07	4.55E+07	3.96E+07	4.04E+07
	Total Viable Cells	9.66E+08	9.10E+08	7.92E+08	8.08E+08
	Viability (%)	96.55%	92.55%	98.30%	98.30%
	T/WBC Ratio (%)	62.03%	64.15%	52.38%	52.13%

- **Viable Cell Density:** Post-thaw viable cell densities in both the CS10 and CellStore groups were not lower than the pre-cryopreservation viable cell densities in both experimental groups.
- **Cell Viability:** No significant differences in post-thaw cell viability were observed between the two groups.
- **CD3+ Percentage:** No significant difference in CD3+ percentage was found between the CS10 and CellStore groups, while the CD3+ percentage increased in both groups after thawing.

Note:Leukapheresis sample was mixed with cryopreservation solution at a 1:1 ratio, with a final total volume of 40 mL.

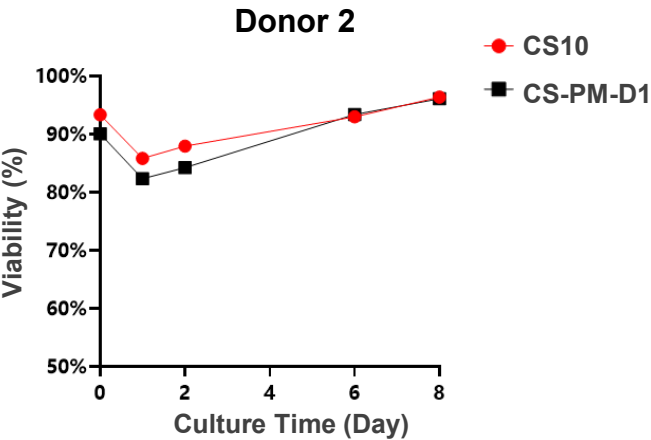
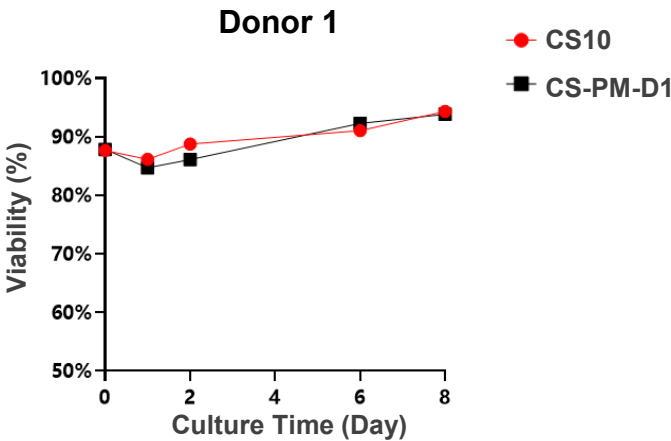
Product Name: PBMC Cryopreservation Medium
Cat.: CS-PM-D1
Cell Type: Leukapheresis sample

Leukapheresis Sample Cryopreservation Test – Cell Viability During Post-Thaw Culture

Post-Thaw Viability During Culture

Culture Time (Day)	Donor 1		Donor 2	
	CS10	CS-PM-D1	CS10	CS-PM-D1
0	87.65%	87.85%	93.35%	90.05%
1	86.15%	84.70%	85.85%	82.35%
2	88.75%	86.10%	87.95%	84.25%
6	91.05%	92.30%	93.00%	93.40%
8	94.35%	93.85%	96.40%	96.10%
10	/	/	/	/

Culture Viability: Viability trends were consistent between CS10 and CellStore groups in both donors, with no significant differences.



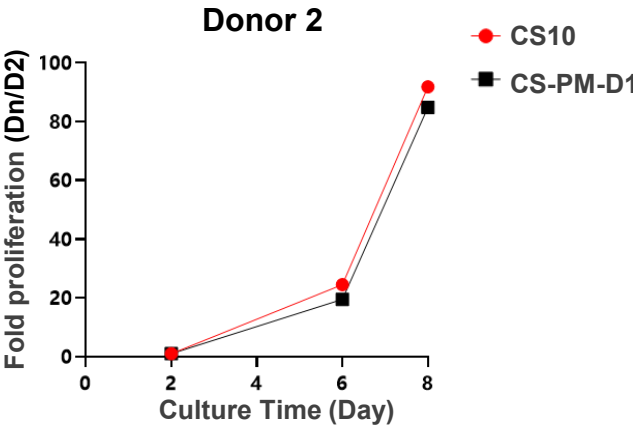
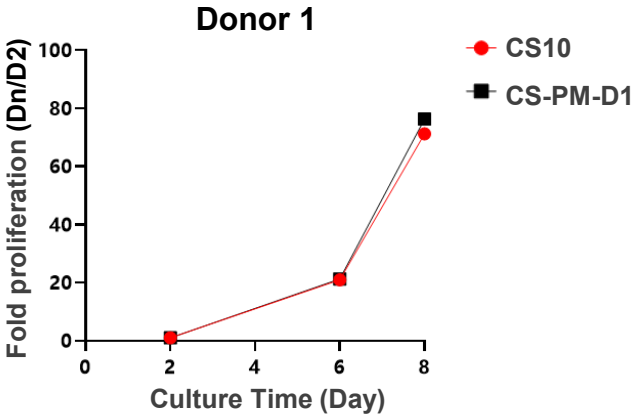
Product Name: PBMC Cryopreservation Medium
Cat.: CS-PM-D1
Cell Type: Leukapheresis sample

Leukapheresis Sample Cryopreservation Test – Cell Proliferation During Post-Thaw Culture

Post-Thaw Culture Proliferation (Dn/D2)

Culture Time (Day)	Donor 1		Donor 2	
	CS10	CS-PM-D1	CS10	CS-PM-D1
2	1.00	1.00	1.00	1.00
6	21.01	21.31	24.52	19.50
8	71.22	76.34	91.82	84.86
10	/	/	/	/
Doubling Time (Day)	0.97	0.96	0.92	0.94

Cell Proliferation: In both donors, the cell proliferation trends were consistent between the CS10 group and the CellStore group, and both exhibited normal proliferation status.



Product Name: PBMC Cryopreservation Medium
Cat.: CS-PM-D1
Cell Type: Leukapheresis sample

Leukapheresis Sample Cryopreservation Test – CAR Expression Rate

Post-Thaw CAR Expression by Flow Cytometry

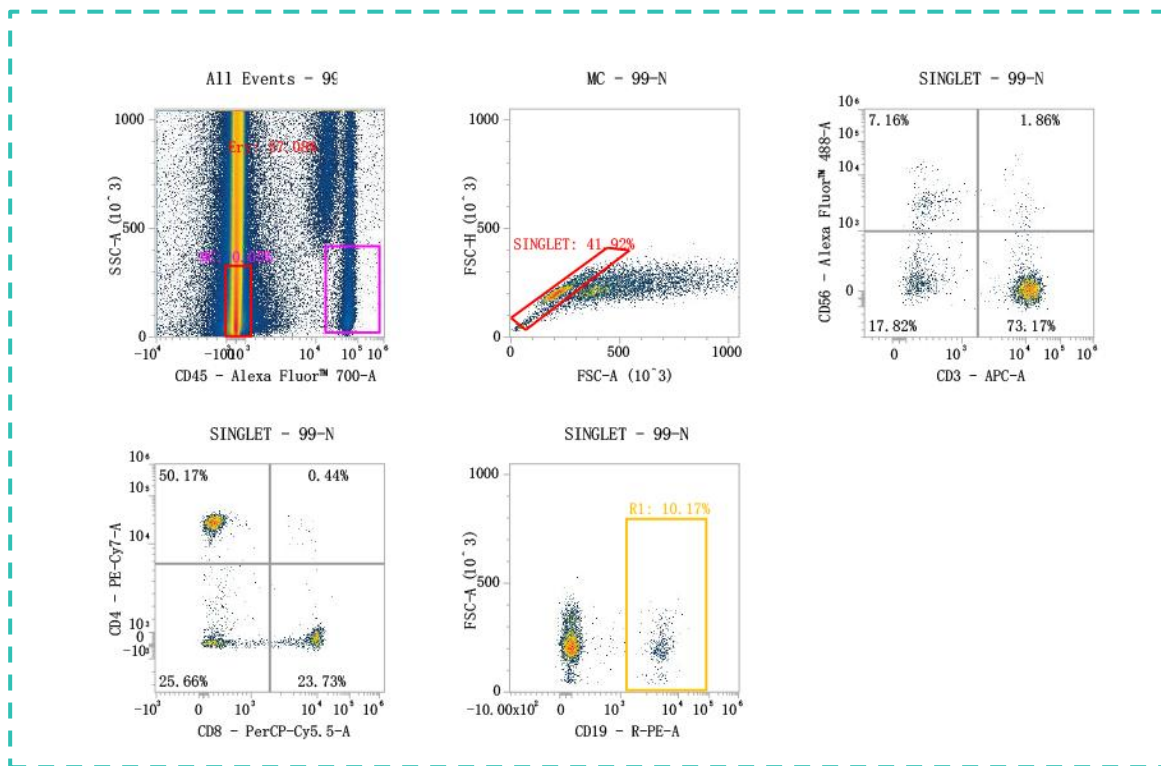
Test Items	Donor 1		Donor 2	
	CS10	CS-PM-D1	CS10	CS-PM-D1
D1 Activation Efficiency	59.56%	63.85%	62.97%	57.40%
D6 CAR Expression Rate	53.49%	49.41%	67.26%	74.46%
D8 CAR Expression Rate	60.13%	60.53%	56.42%	60.39%
D10 CAR Expression Rate	/	/	/	/

- **Activation Efficiency:** In both donors, activation in the CS10 group and CellStore group was at a normal level, with no significant difference between groups.
- **CAR Expression Rate:** There was no significant difference between the CS10 group and the CellStore group.

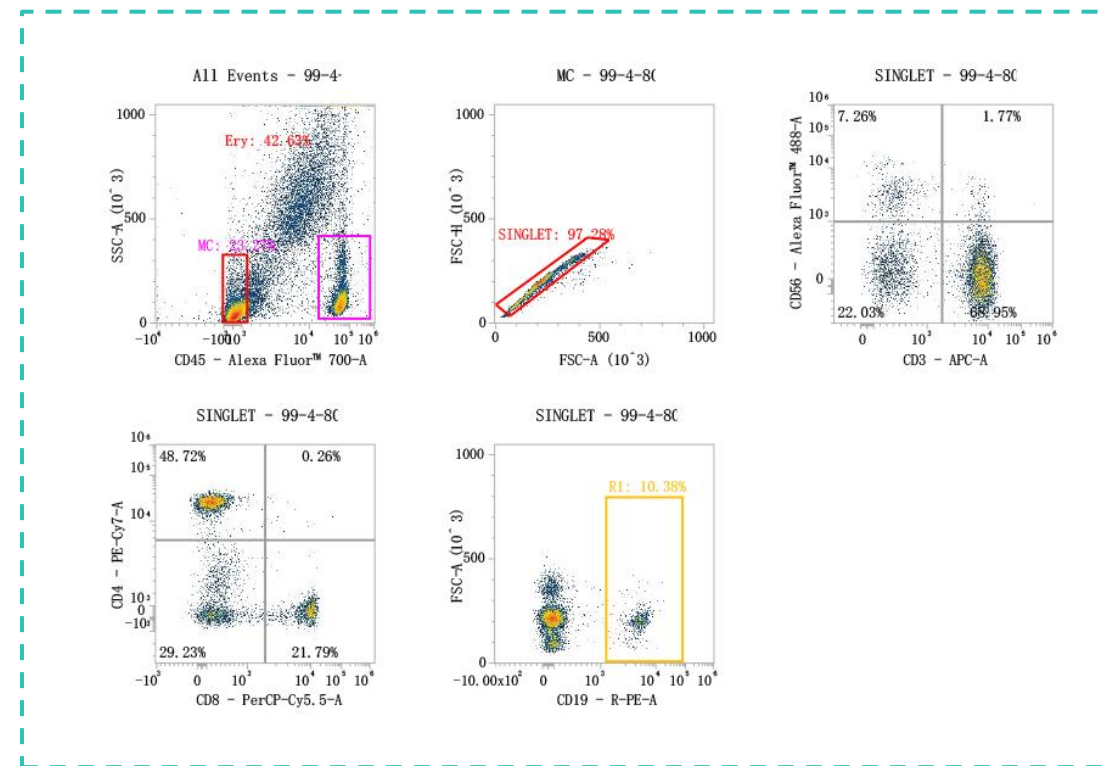


Consistent Flow Cytometry Readouts After Thawing

Whole Blood Frozen Directly with CS-PM-D1 (1:1) / No PBMC Isolation before Freezing / Stable Post-thaw Immune Profiles



Fresh



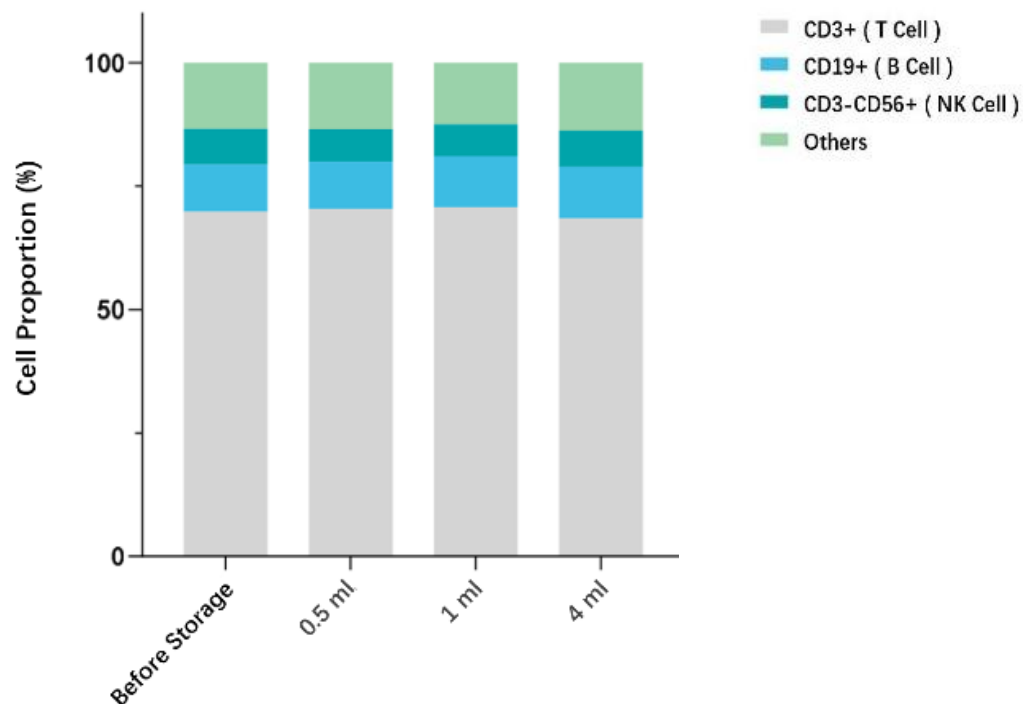
Post-thaw

- CS-PM-D1 enables direct whole blood cryopreservation without PBMC isolation, while maintaining stable post-thaw immune cell profiles.



Preserved Immune Cell Proportions Across Volumes

Immune Cell Proportions Remain Stable



Why This Matters for Flow Labs

- ✓ Eliminates PBMC isolation before freezing
- ✓ Reduces handling-induced variability
- ✓ Enables consistent flow readouts

Particularly suitable for decentralized sample collection and centralized flow cytometry analysis.

- After thawing, the relative proportions of T cells (CD3⁺), B cells (CD19⁺), and NK cells (CD3⁻CD56⁺) remain consistent across storage volumes, supporting reliable downstream flow cytometry analysis.