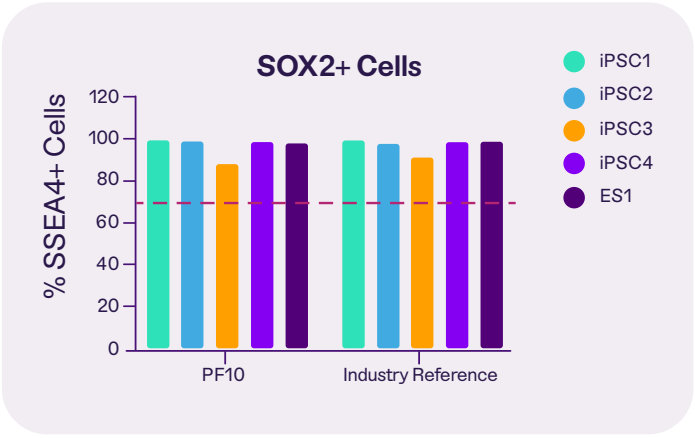
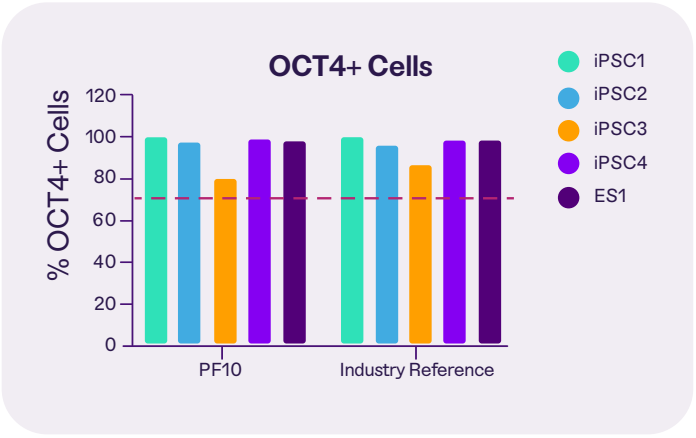
teknova: pluristyx®

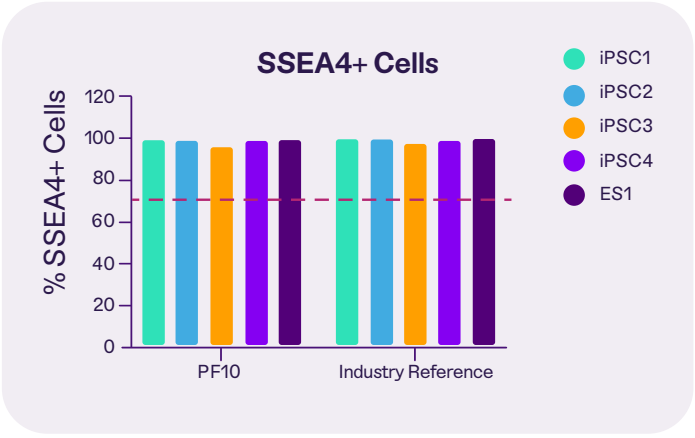
See the data behind the PluriFreeze™ Cryopreservation System:

Undifferentiated Status of iPSCs

Cryopreservation of iPSCs using **PlurifFeeze PF10** supports similar post-thaw levels of marker expression of undifferentiated state compared to the industry reference with four iPSCs and one embryonic stem (ES) cell line. The 70% threshold shown on the flow cytometry plots is a minimum level for iPSCs that we expect all undifferentiated stem cells to maintain.



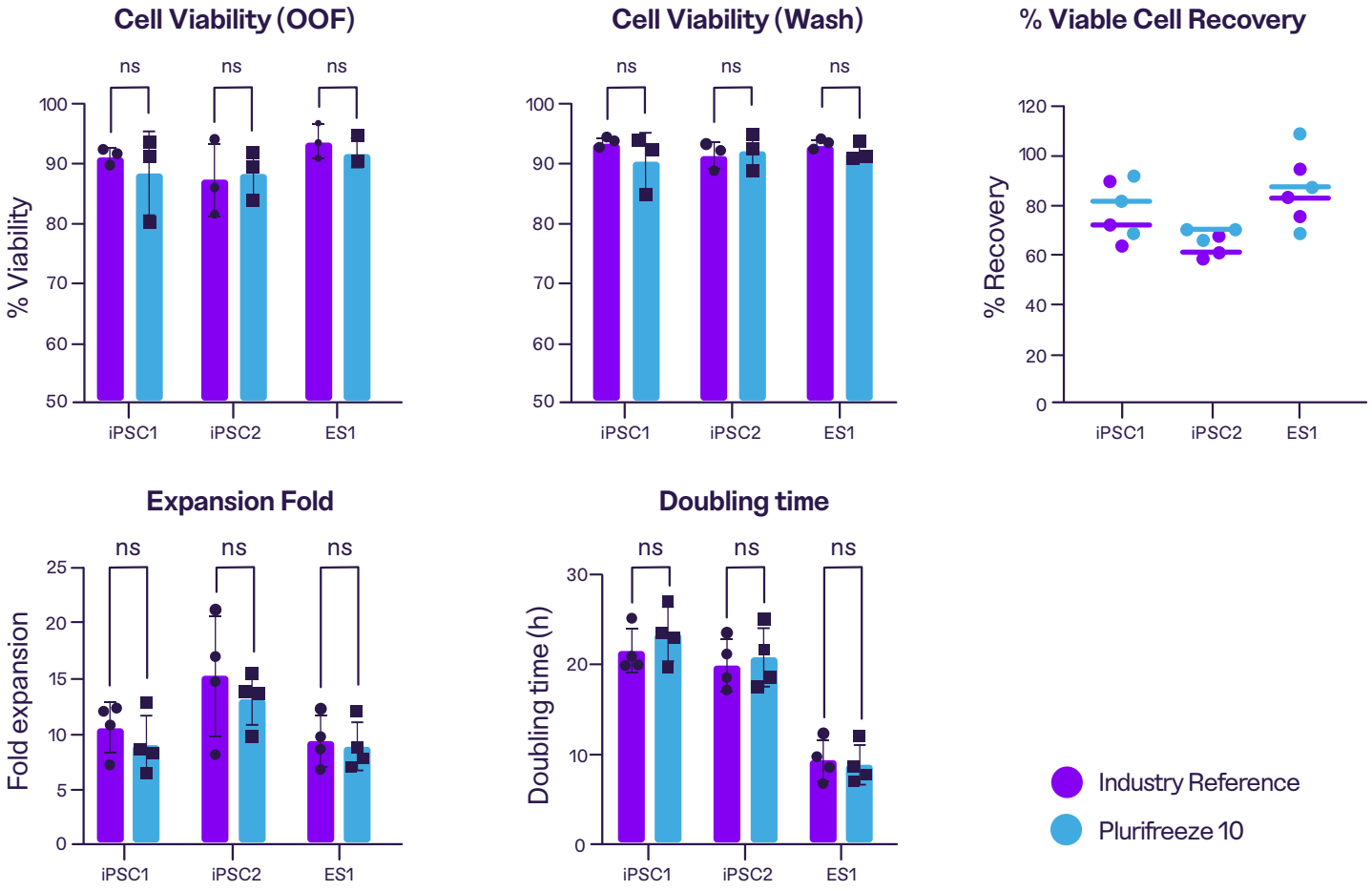




Scroll to see more data

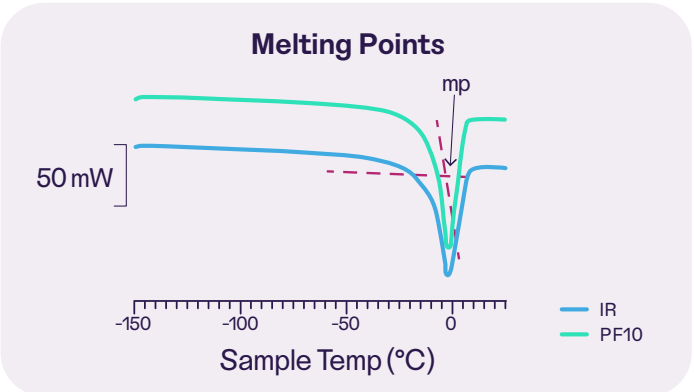
Recovery of iPSCs

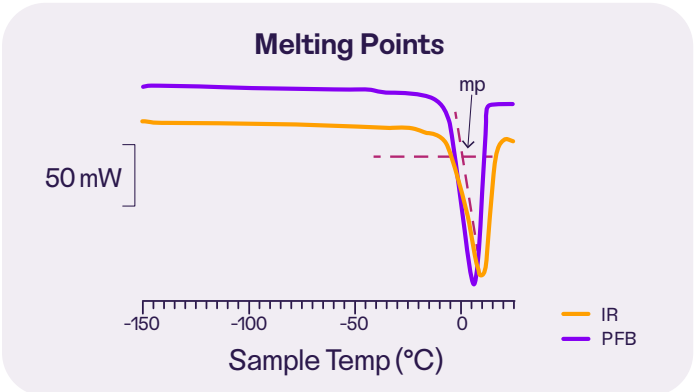
Pluripotent stem cell performance when cryopreserved with PluriFreeze and the industry reference results in similar cell viability, recovery, doubling times, and expansion fold post-thaw.



Thermal Characteristics: Melting Point

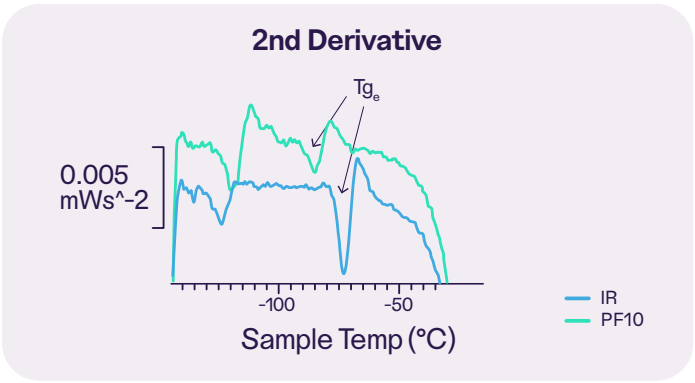
The charts below show the melting points of PluriFreeze compared to the industry reference (IR), determined by Differential Scanning Calorimetry (DSC). Both products — PluriFreeze Base and PF10 — have similar thermal characteristics, indicating the easy implementation of PluriFreeze in existing protocols.

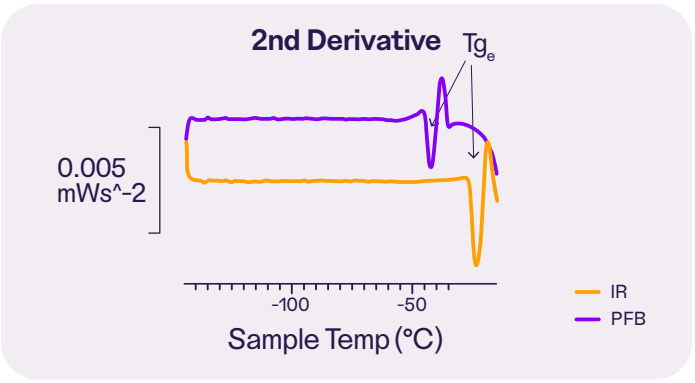




Thermal Chracteristics: Glass Transition

The glass transition temperature (Tg) of PluriFreeze is compared to the industry reference (IR) as determined by Differential Scanning Calorimetry (DSC). Both products — PluriFreeze Base and PF10 — have similar thermal characteristics, indicating the easy implementation of PluriFreeze into existing protocols.





Cell Recovery: NK Cells (KHYG1)

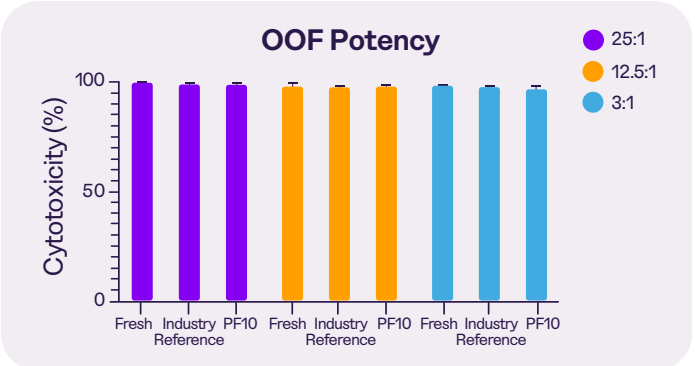
Cryopreservation of nautral killer (NK) cells using PluriFreeze PF10 supports similar levels of surface marker expression post-thaw compared to the industry reference.

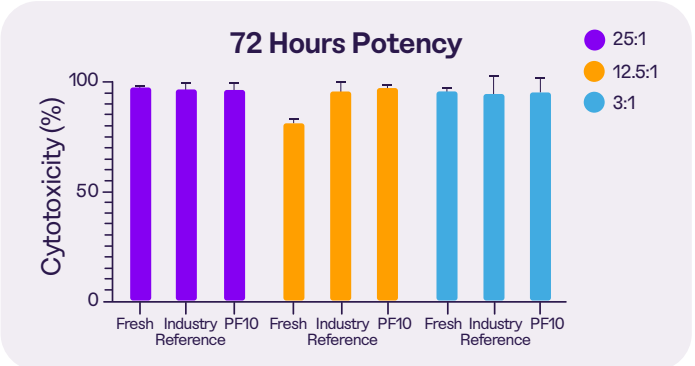
Out of Freeze (OOF)	CD3+ Cells	CD16+ Cells	CD56+ Cells
Proliferating	2.3%	0.7%	94.8%
PF10	0.8 ± 0.1%	0.4 ± 0.1%	97.1 ± 0.4%
Industry Reference	0.9 ± 0.1%	0.5 ± 0.1%	97.0 ± 0.3%

OOF 72 Hours	CD3+ Cells	CD16+ Cells	CD56+ Cells
Proliferating	1.8%	0.4%	97.5%
PF10	1.0 ± 0.6%	0.5 ± 0.2%	98.5 ± 0.4%
Industry Reference	0.5 ± 0.1%	0.7 ± 0.1%	98.1 ± 0.2%

Mean ± SD
N = 1-3

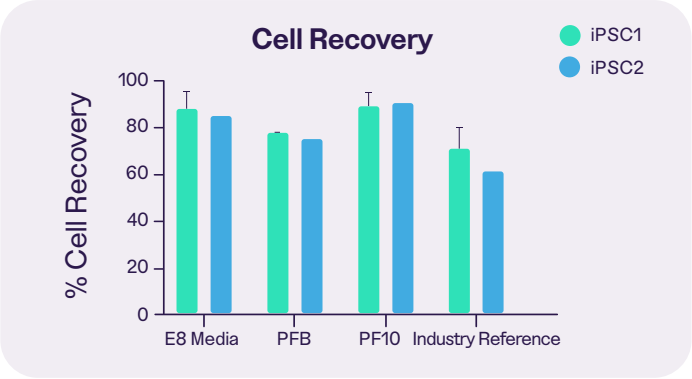
Cryopreservation of NK cells using PluriFreeze PF10 resulted in good viable and functional recovery at thaw, persisting for 72 hours.

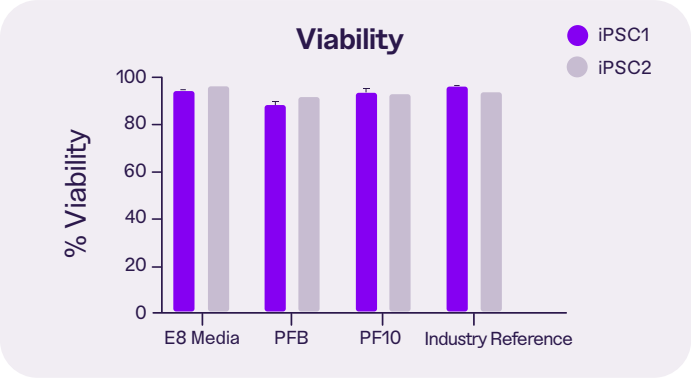




Cell Stability in Cryomedia Pre-Freeeze

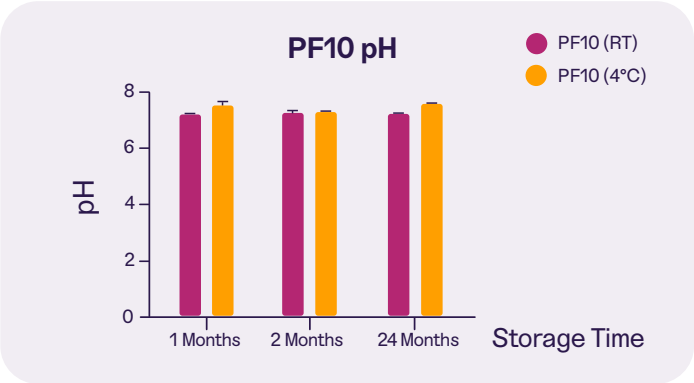
Simulated testing of cell stress included cell harvest, centrifugation to remove media, resuspension and 5-minute holds in various media types, centrifugation to remove supernatant, resuspension in culture media, and cell counting.





Stability

PluriFreeze is stable for up to two years at 4°C and at room temperature, with no change in pH or solute precipitation. PluriFreeze is intended to be stored and used at 2-8°C. Excursions in temperature for shipping and storage to room temperature are acceptable.



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PluriFreeze Cryopreservation System

PluriFreeze Base

A protective wash that mimics intracellular space and provides metabolic support that can be used across the workflow.

RUO Product ID: 22244
GMP Product ID: 23014

PluriFreeze PF10

A low-viscocity freezing medium with 10% DMSO that simplifies scale-up and process automation.

RUO Product ID: 22243
GMP Product ID: 23015

Characteristics	PluriFreeze	Industry Reference
RUO/Reduced Cost	☑	⊗
Reduced Viscosity	☑	⊗
Flexible Formulation	☑	⊗
Large Scale Compatible	☑	⊗
DMSO cryoprotectant	☑	☑
Suitable for many cell types	☑	☑