

FRS™ Pioneer

Broad spectrum chemically defined FBS replacement

Application note: Cryoprotection

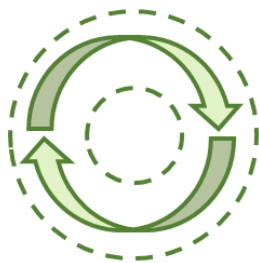
Media City Scientific's Fetal Bovine Serum Replacement Solution (FRS™) Pioneer is a drop-in chemically defined and animal component free FBS replacement. FRS™ Pioneer supports the growth of a broad range of cell lines but can also be substituted for FBS for cell cryopreservation. Mix 10% DMSO with 90% FRS™ Pioneer for broad-spectrum cryopreservation efficacy in the liquid or vapor phase of nitrogen.

FRS™ Pioneer is a drop-in, chemically defined FBS replacement that is:

- Cost effective - priced on par with premium FBS
- Consistent - enabling scientific reproducibility and reliability
- Animal-free - contains no animal derived components
- Effective – supports a broad range of cells at a similar level of performance to FBS



Broad Spectrum -
Performance Across
Multiple Cell Types



Chemically Defined -
Unparalleled
Reproducibility



Contaminant Free



Cost Effective

Media City
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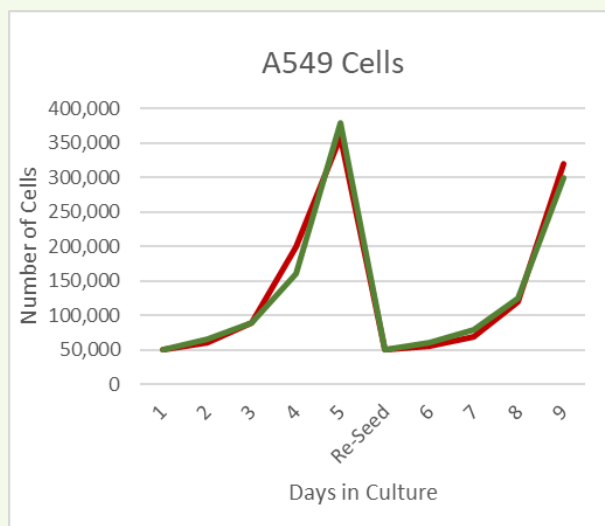
FRS™ Pioneer Performance

FRS™ Pioneer versus FBS for cell cryopreservation

Cells were frozen using standard methods in freeze media containing 10% DMSO with either 90% FBS or 90% FRS™ Pioneer. Cells were stored in a liquid or vapor phase nitrogen tank for a period of 1 week to 6 months. Cells were thawed using standard methods. Viability, proliferation, and function were analyzed. Data indicate that, similar to FBS, FRS™ Pioneer is an effective cryopreservation agent when mixed with 10% DMSO. Data sets were collected internally and externally.

Immortalized Cell lines

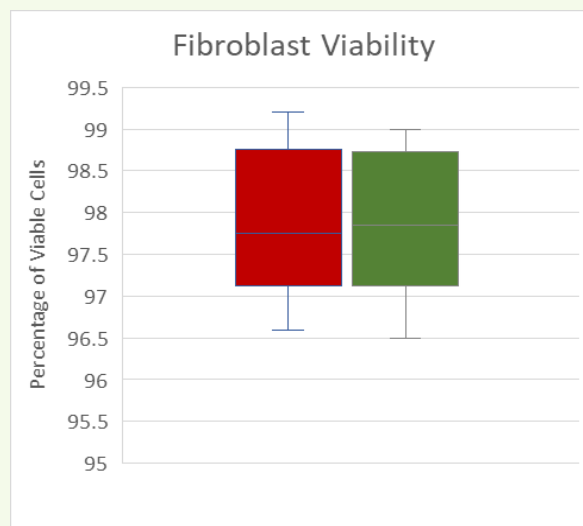
Tested: A549, CHO, MCF7



Growth of A549 cells following cryopreservation in FBS (red) or FRS™ Pioneer (green) -containing freeze media (3 months, LN₂)

Primary Cells

Tested: Muscle stem cells, chondrocytes, fibroblasts.



Viability of primary fibroblasts following cryopreservation in FBS (red) or FRS™ Pioneer (green) - containing freeze media (6 months, LN₂)

External Case Study: PBMCs cryopreserved in vapor-phase N₂ for 5-14 days using FRS™ Pioneer-containing freeze media retain viability and effector functions following thaw. Long-term biobanking study is in progress. Reach out for more details.