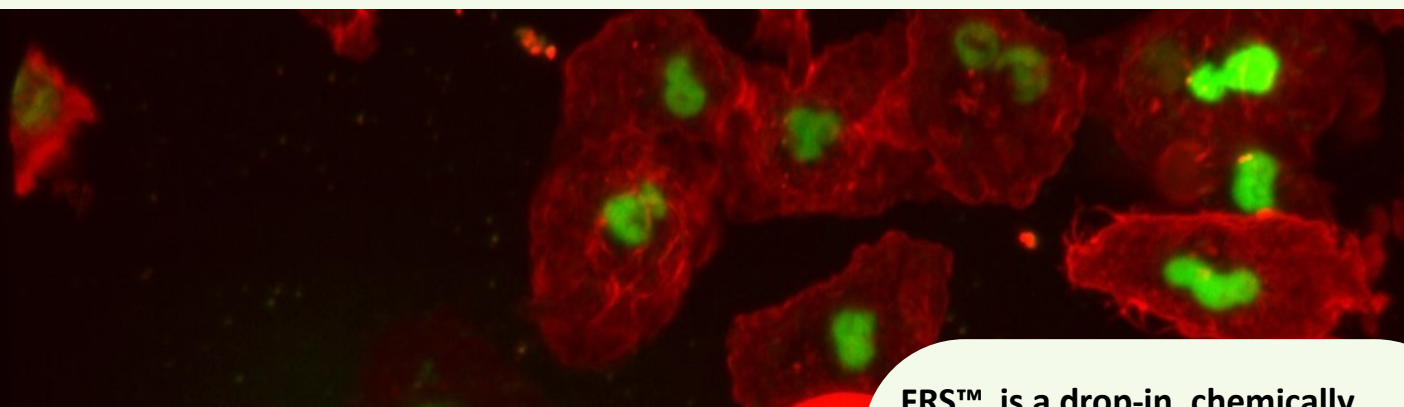


FRS™ Pioneer

Broad Spectrum Chemically Defined FBS Replacement

Immortalised Cell Lines Data Sheet



Foetal Bovine Serum (FBS) has been a vital and historically irreplaceable serum supplement for cell culture media. Limitations including inherent contaminants and batch inconsistency alongside high and volatile prices are well known to scientists. This makes its use undesirable in research and clinical settings.

Media City Scientific's Foetal 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 types.

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

- Priced on par with premium FBS
- Consistent - enabling scientific reproducibility and reliability.
- Contains no animal derived components.
- Grows a broad range of cells at a similar level of performance, including proliferation and longevity, to FBS.
- Free of contaminants.



Broad Spectrum - Performance
Across Multiple Cell Types



Chemically Defined—
Unparalleled Reproducibility



Contaminant Free



Cost-Effective

Media City
SCIENTIFIC

Learn more @ mediacityscientific.com

FRS™ Pioneer Performance

FRS™ Pioneer versus FBS for immortalised cell culture...

Following a direct adaptation process, a range of common immortalised cells were cultured in 2-10% FBS or FRS™ Pioneer for >30 days. FRS™ Pioneer supports minimal morphological changes and long-term cell proliferation, unlike basal media alone. Analyses indicate intracellular signalling and downstream function are maintained between cells cultured with FBS and FRS™ Pioneer. Data sets were generated internally and/or through external laboratories.

Cell lines grown with FRS™

Pioneer for 6+ weeks:

MCF7 (Breast cancer)
MDA-MB-231 (Breast cancer)
A549 (Lung cancer)
CHO (Ovary)
HEK293 (Embryonic kidney)
U87 (Glioblastoma)
Jurkat (T-cell)
MM.1R (B-cell)

All cell lines tested to date grow successfully using FRS™ Pioneer.

Key Application Notes:

Direct adaptation: Plate cells in FBS-containing media. 24 hours later—as cells enter exponential growth—perform a 100% feed to FRS™ Pioneer-containing media. Sequential adaptation methods are also successful.

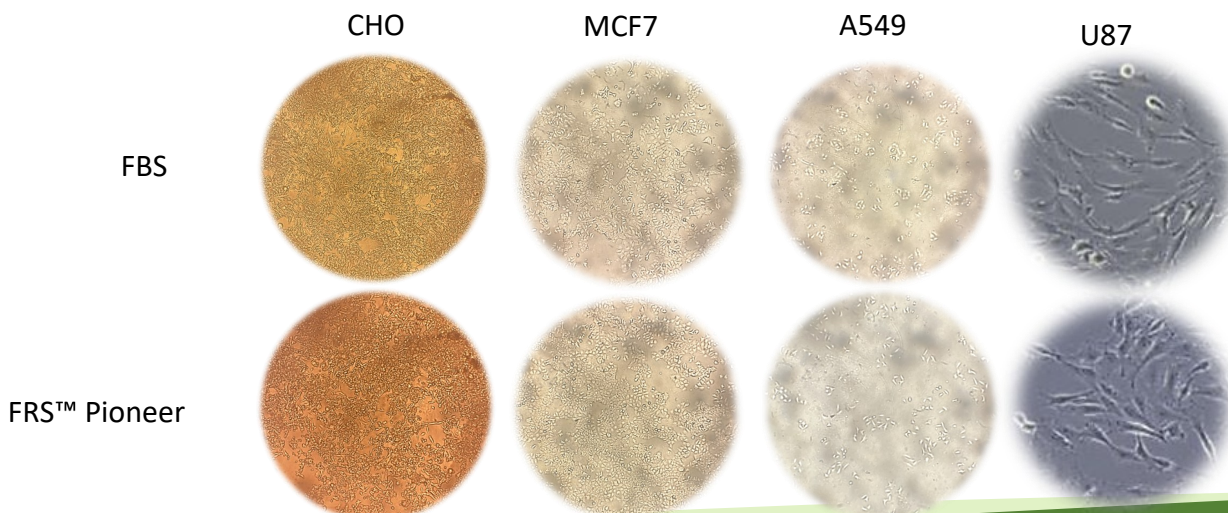
Use 10-fold less antibiotics

Have a plan for adherence. See *GECKO* by Media City Scientific or a cell-line specific adherence coating).

Replace FBS 1:1 with FRS Pioneer.

Basal Media: In some instances, cell proliferation in FRS™ Pioneer is improved by using a more complex media (*e.g. DMEM/F12 for DMEM*).

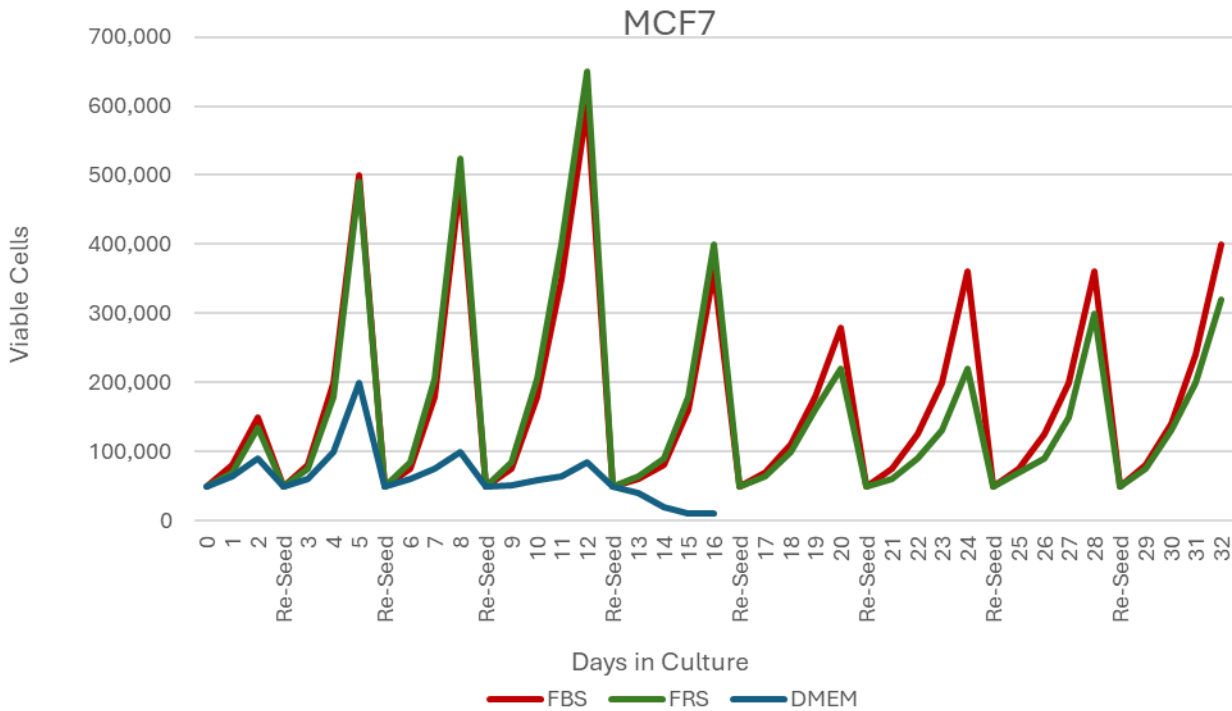
Example data: Morphology of selected cell lines following over 30 days in culture containing 10% FBS or 10% FRS™ Pioneer.



FRS™ Pioneer Performance

FRS™ Pioneer supports adherent cell proliferation

Example: Proliferation of MCF7 for 30+ days in DMEM with 10% FBS, 10% FRS™ Pioneer, or no supplement, on GECKO adherence coating.



Example: Proliferation of CHO for 30+ days in DMEM with 5% FBS, 5% FRS™ Pioneer, or no supplement, on GECKO adherence coating.

