mTeSR™ Plus
THE NEW STANDARD

Raise the Bar for Human ES and iPS Cell Maintenance

Based on the formula of the most widely-published feeder-free maintenance medium, mTeSR™ Plus offers enhanced buffering capacity and contains a number of stabilized components, including FGF2, allowing for true culture versatility while supporting cell quality. Try mTeSR™ Plus in your lab to achieve improved cell growth characteristics, or use it to maintain cells on your own schedule — worry-free.

Why Use mTeSR™ Plus?

STABILIZED. Enhanced buffering and stabilized components including FGF2 support cell quality while allowing for alternate feeding schedules.

ENHANCED GROWTH. Supports superior culture morphology and cell growth characteristics.

EFFICIENT CLONING. Enables heightened single-cell survival when used with CloneR™.

STREAMLINED. Fully compatible with established genome editing and differentiation protocols.

mTeSR™ Plus • 500 mL Kit • Catalog # 05825

Free up your days with just two golden rules:

☑ **Skip 2 days = Double feed**

☑ **Skip 1 day = Regular feed**

The possibilities are endless. Use your regular schedule, or try something new. Here are some examples:

PASSAGING FREQUENCY	MON	TUE	WED	THU	FRI	SAT	SUN	
7d	P	F	F	F	F	F	F	repeat
7d	P	F	F	F	2F	x	x	repeat
6d	P	x	2F	x	x	F	repeat	
5d	P	F	2F	x	x	repeat		
3d/4d	P	F	x	P	2F	x	x	repeat

P = Passage; F = Single Feed; 2F = Double Feed

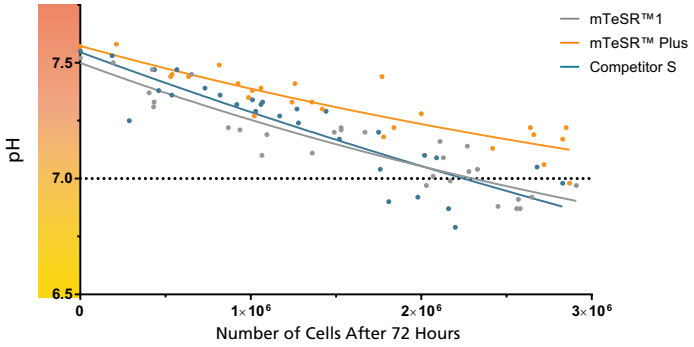

Figure 1. mTeSR™ Plus Maintains Optimal pH Levels Throughout a Weekend-Free Protocol

The pH of spent medium from hPSCs cultured in mTeSR™ Plus is higher than that of hPSCs cultured in mTeSR™1 and other flexible-feeding medium at similar cell densities. pH and cell numbers were measured after a 72-hour period without feeding. Range of cell numbers shown represent different densities that would be observed throughout a typical passage. This demonstrates that feeds can be skipped for two days at any time during routine maintenance using mTeSR™ Plus while maintaining a pH above 7.0. Note: Cultures were fed double the standard medium volume prior to the 72-hour period without feeds in all media and cell numbers are from one well of a 6-well plate.

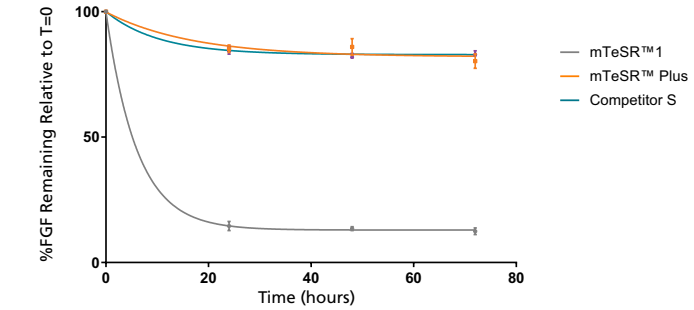

Figure 2. mTeSR™ Plus Maintains Consistent Levels of FGF2 Throughout a Weekend-Free Protocol

FGF2 levels remain high in mTeSR™ Plus when cultured at 37°C over a 72 hour time period. Measured by ELISA.

Tested to Work

All mTeSR™ Plus performance testing was completed with a highly reduced feeding schedule to ensure the medium upheld cell quality under rigorous standards.

	MON	TUE	WED	THU	FRI	SAT	SUN
Restricted	P	-	F	-	2F	-	-

Superior Morphology of Undifferentiated hPSC Colonies

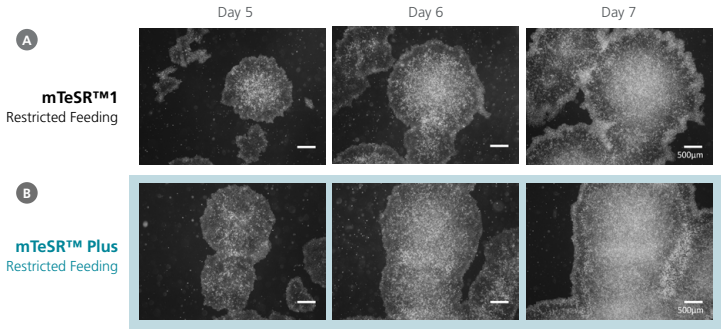

Figure 3. Human ES Cells in mTeSR™ Plus Display Improved Morphology and Larger Colony Size When Feeding is Restricted

Human ES cells (H9) cultured on (A) mTeSR™1 or (B) mTeSR™ Plus with restricted feeding on Corning® Matrigel®. Images were taken on days 5, 6, and 7 after seeding.

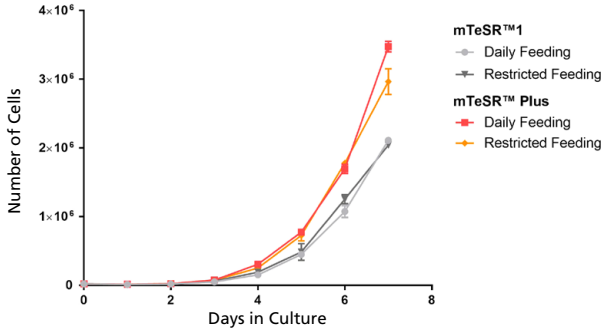

Figure 4. mTeSR™ Plus Supports Higher Cell Numbers

Growth curves were obtained for human ES (H9) cells cultured in mTeSR™1 or mTeSR™ Plus on Corning® Matrigel® matrix over 7 days with either daily feeds or restricted feeds. Growth curves were determined by seeding 20,000 cells per well of a 6-well plate as aggregates and counting the cell numbers each day in duplicate wells.

Efficient Differentiation Into The Embryonic Germ Layers

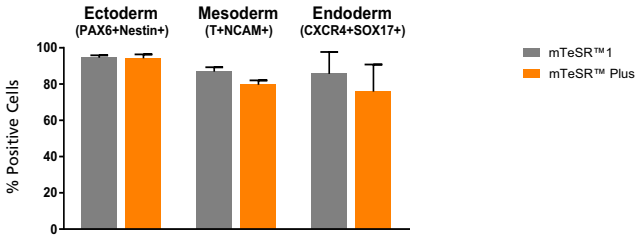

Figure 6. Cells Maintained in mTeSR™ Plus have Comparable Differentiation Efficiencies to Cells Maintained in mTeSR™1

Human ES (H1, H9) and iPS (WLS-1C, STiPS-M001) cells were maintained in mTeSR™1 (daily feeds) or mTeSR™ Plus (restricted feeds). Cells were differentiated using directed differentiation protocols and subjected to flow cytometry analysis. Graphs show average expression (± SEM) results from the 4 cell lines. The markers used for flow cytometry for each germ layer are listed in the bar titles.

Consistent hPSC Gene Expression Profile

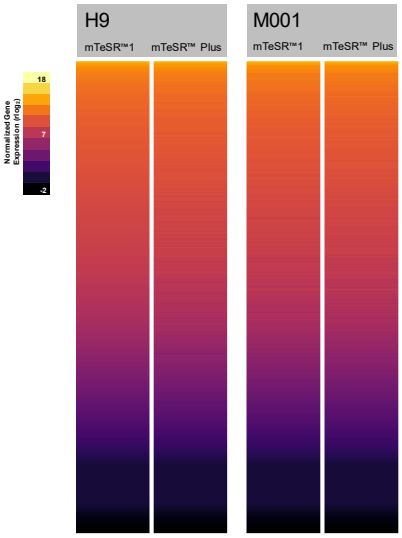

Figure 5. Cells Maintained in mTeSR™ Plus With Restricted Feeding Are Equivalent to Cells Maintained in mTeSR™1 With Daily Feeding

Human ES (H9) and iPS (STiPS-M001) cells were cultured for at least 10 passages with either mTeSR™1 (daily feeds) or mTeSR™ Plus (restricted feeds). Transcriptome analysis of hPSCs maintained in mTeSR™ Plus using RNAseq shows a gene expression profile indistinguishable from cultures maintained in mTeSR™1. Heat map displays all 19,665 genes measured for each condition.

Try mTeSR™ Plus

Request your sample at **www.stemcell.com/mtesrplus-sample**

For more product details, visit **www.stemcell.com/mtesrplus**

High Cloning Efficiency for Genome Editing

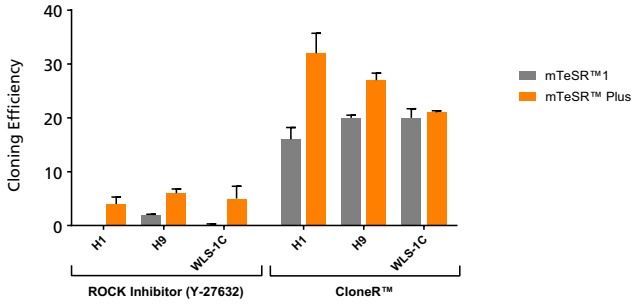

Figure 7. High Cloning Efficiency of hPSCs in mTeSR™ Plus Supplemented with CloneR™

hPSCs (H1, H9, and WLS-1C) plated in mTeSR™ Plus with CloneR™ demonstrate cloning efficiencies equal to or greater than hPSCs in mTeSR™1 with CloneR™. Cells were seeded at clonal density (25 cells/cm²) in mTeSR™1 or mTeSR™ Plus on CellAdhere™ Vitronectin™ XF™-coated plates.