WHICH hPSC MEDIUM IS RIGHT FOR YOU?

Guide to the Right Choice for Your hPSC Research

The maintenance of high quality human pluripotent stem cells (hPSCs) is critical to success in all hPSC research applications. The TeSR™ family of feeder-free maintenance media can help you minimize variation in your research involving embryonic stem (ES) or induced pluripotent stem (iPS) cells. Each TeSR™ medium is based on published formulations[1-3] from the laboratory of Dr. James Thomson and offers specialized features to fit your unique research needs.

Routine Maintenance and Expansion

mTeSR™ Plus

- Enhanced buffering and stabilized FGF2 support cell quality while allowing for reduced feeding schedules
- Supports superior culture morphology and cell growth characteristics
- Enables heightened single-cell survival when used with CloneR™

cGMP-Grade hPSC Maintenance

mTeSR™1

- Used to maintain thousands of human ES and iPS cell lines in over 60 countries for 10 years
- Contains pre-screened BSA to stabilize medium, aid in lipid/nutrient transport, and protect cultures from cellular toxins and stresses[1]
- Maintenance medium of choice for many published protocols for lineage-specific differentiation of hPSCs

Animal Component-Free/Xeno-Free

TeSR™-E8™

- Cutting-edge, animal component-free (ACF) formulation
- Contains only the 8 most critical components required for hPSC maintenance[2,3]

TeSR™2

- Manufactured with xeno-free components
- Contains recombinant human albumin to aid in lipid/nutrient transport and protect cultures from cellular toxins and stresses

Suspension Culture Scale-Up

mTeSR™3D

- Based on mTeSR™1, optimized formulation for hPSC scale-up
- Fed-batch culture system for a simplified workflow
- Scale up to 10^9 high-quality, undifferentiated hPSCs in as few as 2 - 3 weeks

TeSR™-E8™3D

- Based on TeSR™-E8™, optimized for hPSC scale-up in low protein, ACF conditions
- Fed-batch culture system for a simplified workflow
- Scale up to 10^9 high-quality, undifferentiated hPSCs in as few as 2 - 3 weeks

The STEMCELL portfolio of hPSC media also includes optimized formulations for reprogramming, cryopreservation, or use in differentiation assays. These products provide researchers with a continuous TeSR™ media-compatible workflow for their hPSC culture system.

Reprogramming for iPS Cell Induction

ReproTeSR™

- Manufactured with xeno-free components
- Generates human iPS cell colonies with high quality colony morphology for easy identification and rapid subcloning
- Seamlessly integrates with RosetteSep™, SepMate™, EasySep™, and StemSpan™ products for isolation and expansion of harvested cells
- Resulting cells can be cultured with TeSR™ family media and differentiated with the STEMdiff™ suite of products to cells of all three lineages

Cryopreservation Reagents

mFreSR™

- Optimized for hPSCs preserved as aggregates
- Higher thawing efficiencies than reported with conventional serum-containing media

FreSR™-S

- Animal component-free
- Optimized for cryopreservation of cells in single-cell suspension
- Higher thawing efficiencies than reported with conventional serum-containing media

Flexible Differentiation

TeSR™-E6

- Based on TeSR™-E8™, but does not contain bFGF or TGFβ
- Lineage-neutral base formulation ideal for differentiation, screening, and other applications

TeSR™-E5

- Based on TeSR™-E8™, but does not contain bFGF, TGFβ, or insulin
- Ideal for differentiation to lineages, such as cardiomyocyte, in which insulin is a known inhibitor

STEMdiff™ APEL™2

- Serum-free, ACF differentiation medium
- Compatible with monolayer- or embryoid body-based protocols, such as with AggreWell™ plates

STEMdiff™ APEL™2-LI

- Serum-free, ACF differentiation medium with low insulin content
- Compatible with monolayer- or embryoid body-based protocols, such as with AggreWell™ plates

For a complete list of related products, including specialized cell culture and storage media, matrices, antibodies, cytokines, and small molecules, visit **www.stemcell.com/hPSCworkflow** or contact us at **techsupport@stemcell.com**.

References

1. Ludwig TE et al. (2006) Nat Methods 3(8): 637–46.
2. Chen G et al. (2011) Nat Methods 8(5): 424–429.
3. Beers J et al. (2012) Nat Protoc 7(11): 2029–40.