

PRODUCT DESCRIPTION

mTeSR™1 medium (Catalog #05850/05870/05875/05857) is a complete, serum-free, defined formulation designed for the feeder-independent maintenance and expansion of human embryonic stem cells (hESCs) in the undifferentiated state.^{1,2} mTeSR™1 has also been used to derive and maintain human induced pluripotent stem cells (hiPSCs).³⁻⁵ Complete mTeSR™1 medium (Basal Medium + 5X Supplement) contains recombinant human basic fibroblast growth factor (rh bFGF) and recombinant human transforming growth factor β (rh TGF β). Addition of further growth factors is not required. mTeSR™1 medium is formulated for use with BD Matrigel™ hESC-qualified Matrix-coated surfaces (BD Catalog #354277). This BD Matrigel™ has been qualified as mTeSR™1-compatible by STEMCELL Technologies Inc.

Each batch of mTeSR™1 is sterility-tested before being performance tested as follows: H1 or H9 hESCs are cultured in mTeSR™1 medium prepared with test batch of 5X Supplement and cultured for ≥ 3 passages. Results are compared to an mTeSR™1 medium laboratory standard cultured in parallel. A certificate of analysis is available on request.

COMPONENTS

05871 mTeSR™1 Basal Medium	800mL
05852 mTeSR™1 5X Supplement	2 x 100mL

COMPLETE MEDIUM SPECIFICATIONS:

PARAMETER	SPECIFICATION
Osmolarity	330 - 350 mOsm
pH	7.25 - 7.45

STABILITY AND STORAGE

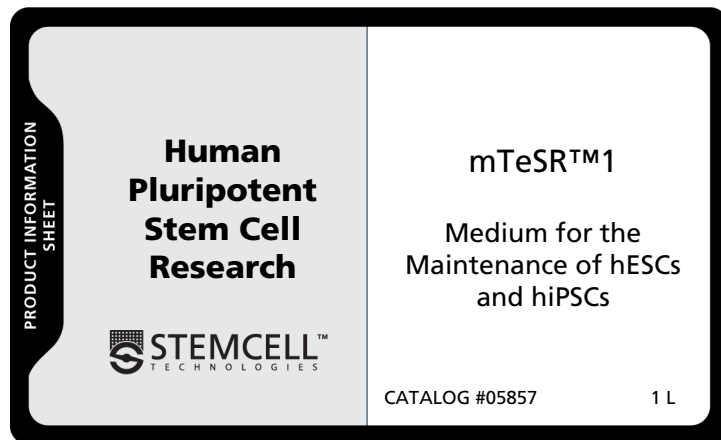
mTeSR™1 Basal Medium (Catalog #05871) is stable at 2 - 8°C until expiry date as indicated on label.

mTeSR™1 5X Supplement (Catalog #05852) is stable at -20°C until expiry date as indicated on label. Thaw up to 2 times.

Complete mTeSR™1 medium is stable at 2 - 8°C for up to 2 weeks.

Complete medium can be stored at -20°C after preparation and is stable for up to 6 months. Thaw complete medium at room temperature (15 - 25°C) or overnight at 2 - 8°C.

This product has been aseptically manufactured using tightly controlled processes and extensively pre-screened components.



PREPARATION

1. Thaw mTeSR™1 5X Supplement (Catalog #05852) at room temperature (15 - 25°C) or overnight at 2 - 8°C.

If desired, 5X Supplement can be aseptically dispensed into working aliquots and stored frozen at -20°C. Use aliquots within 3 months. Thawed aliquots should be used within 1 day to prepare complete mTeSR™1 medium. Do not refreeze aliquots after thawing.

2. Aseptically add the entire 200 mL (2 x 100 mL) of thawed 5X Supplement to 800 mL Basal Medium (Catalog #05871) for a total volume of 1 L. Mix well. The complete mTeSR™1 medium is stable when stored at 2 - 8°C for up to 2 weeks.

If prepared aseptically, mTeSR™1 medium is ready for use but the medium can also be filtered using a 0.2 μ m, low-protein binding filter, if desired.

DIRECTIONS FOR USE

For complete instructions on how to maintain hESCs and hiPSCs in mTeSR™1 medium refer to the Technical Manual: Maintenance of Human Pluripotent Stem Cells in mTeSR™1 and TeSR™2 (Document #29106) available on our website at www.stemcell.com or contact us to request a copy. BD Matrigel™ hESC-qualified Matrix is available from BD (Catalog #354277).

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VERSION 1.1.0

DOCUMENT #29988

RELATED PRODUCTS

PRODUCT	CATALOG #
TeSR™2 Animal Protein-Free Medium for the maintenance of hESCs & hiPSCs	05860/05880
AggreWell™400 plates for the reproducible formation of uniformly sized embryoid bodies	27845/27945
Anti-Oct 3/4 antibody	01550/01551
Anti-SSEA-1 antibody	01552
Anti-SSEA-3 antibody	01553
Anti-SSEA-4 antibody	01554
Anti-TRA-1-60 antibody	01555
Anti-TRA-1-81 antibody	01556
Anti-TRA-2-49 antibody	01557
Anti-TRA-2-54 antibody	01558
FITC-conjugated goat anti-mouse IgG	10210
FITC-conjugated goat anti-mouse IgM	10211
APC-conjugated goat anti-rat IgM	10215
mFreSR™ defined cryopreservation medium for hESCs and hiPSCs	05855/05854
CryoStor™CS10 defined, animal protein-free cryopreservation medium for hESCs and hiPSCs	07930
ACCUTASE®	07920
Dispase (1 U/mL)	07923

REFERENCES

1. Ludwig TE, Levenstein ME, Jones JM, Berggren WT, Mitchen ER, Frane JL, Crandall LJ, Daigh CA, Conard KR, Piekarczyk MS, Llanas RA, Thomson JA: Derivation of human embryonic stem cells in defined conditions. *Nature Biotechnology* 24: 185-187, 2006
2. Ludwig TE, Bergendahl V, Levenstein ME, Yu J, Probasco MD, Thomson JA: Feeder-independent culture of human embryonic stem cells. *Nature Methods* 3: 637-646, 2006
3. Yu J, Vodyanik MA, Smuga-Otto K, Antosiewicz-Bourget J, Frane JL, Tian S, Nie J, Jonsdottir GA, Stewart R, Slukvin II, Thomson JA: Induced pluripotent stem cell lines derived from human somatic cells. *Science*. 318: 1917-1920, 2007
4. Masaki H, Ishikawa T, Takahashi S, Okumura M, Sakai N, Haga M, Kominami K, Migita H, McDonald F, Shimada F, Sakurada K: Heterogeneity of pluripotent marker gene expression in colonies generated in human iPS cell induction culture. *Stem Cell Research* 1: 105-115, 2008
5. Sun N, Panetta NJ, Gupta DM, Wilson KD, Lee A, Jia F, Hu S, Cherry AM, Robbins RC, Longaker MT, Wu JC: Feeder-free derivation of induced pluripotent stem cells from adult human adipose stem cells. *PNAS* 106: 15720-15725, 2009



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