

## PRODUCT DESCRIPTION

mTeSR™1 medium (Catalog #05850/05870/05875) 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.<sup>1,2</sup> mTeSR™1 has also been used to derive and maintain human induced pluripotent stem cells (hiPSCs).<sup>3-5</sup> Complete mTeSR™1 medium (Basal Medium + 5X Supplement) contains recombinant human basic fibroblast growth factor (rh bFGF) and recombinant human transforming growth factor  $\beta$  (rh TGF $\beta$ ). 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  $\geq 5$  passages. Results are compared to an mTeSR™1 medium laboratory standard cultured in parallel. A certificate of analysis is available on request.

## COMPONENTS

05851 mTeSR™ 1 Basal Medium	400mL
05852 mTeSR™ 1 5X Supplement	100mL

## COMPLETE MEDIUM SPECIFICATIONS

PARAMETER	SPECIFICATION
Osmolarity	330 - 350 mOsm
pH	7.25 - 7.45

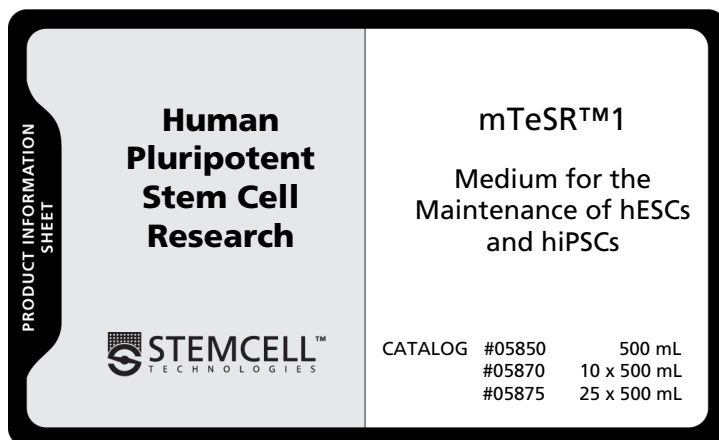
## STABILITY AND STORAGE

mTeSR™ 1 Basal Medium (Catalog #05851) 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 100 mL of thawed 5X Supplement to 400 mL Basal Medium (Catalog #05851) for a total volume of 500 mL. 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  $\mu$ 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](http://www.stemcell.com) or contact us to request a copy. BD Matrigel™ hESC-qualified Matrix is available from BD (Catalog#35427).

FOR RESEARCH USE ONLY. NOT INTENDED FOR HUMAN OR ANIMAL DIAGNOSTIC OR THERAPEUTIC USES.



TOLL-FREE T. 1 800 667 0322 • T. +1 604 877 0713 • TOLL-FREE F. 1 800 567 2899 • F. +1 604 877 0704

ORDERS@STEMCELL.COM • INFO@STEMCELL.COM • FOR FULL CONTACT DETAILS WORLDWIDE VISIT [WWW.STEMCELL.COM](http://WWW.STEMCELL.COM)

VERSION 1.5.0

DOCUMENT #29135

**RELATED PRODUCTS**

PRODUCT	CATALOG #
TeSR™2 Animal Protein-Free Medium for the maintenance of hESCs & hiPSCs	05860/05880
STEMcircles™-LGNSO for non-viral reprogramming	05820
AggreWell™400	27845/27945
AggreWell™800	27865/27965
AggreWell™Medium	05893
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**

- 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
- 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
- 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
- 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
- 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



*This product was developed under license to intellectual property owned by WiCell™ Research Institute (patent pending).*

This product is sold for research use only (whether the buyer is an academic or for-profit entity) under a non-transferable, limited-use license. Purchase of this product does not include the right to sell, use or otherwise transfer this product for commercial purposes (i.e., any activity undertaken for consideration, such as use of this product for manufacturing, or resale of this product or any materials made using this product, or use of this product or any materials made using this product to provide services) or clinical use (i.e., administration of this product or any material using this product to humans) or the right to implant any material made using this product into an animal by, or in collaboration with, a for-profit entity, for purposes other than basic pre-clinical research applications (including without limitation teratoma assays) to validate the function of the cells. Purchasers wishing to use the product for purposes other than research use should contact Geron Corporation's Business Development office at (650) 473-7700 or corpdev@geron.com. Purchasers who do not agree to the terms and conditions set forth above should return the product in acceptable conditions to the seller for a refund.

FOR RESEARCH USE ONLY. NOT INTENDED FOR HUMAN OR ANIMAL DIAGNOSTIC OR THERAPEUTIC USES.



TOLL-FREE T. 1 800 667 0322 • T. +1 604 877 0713 • TOLL-FREE F. 1 800 567 2899 • F. +1 604 877 0704

ORDERS@STEMCELL.COM • INFO@STEMCELL.COM • FOR FULL CONTACT DETAILS WORLDWIDE VISIT WWW.STEMCELL.COM

VERSION 1.5.0

DOCUMENT #29135