

# mTeSR™1

Defined, feeder-free maintenance medium for human ES and iPS cells

Catalog #85850	500 mL
Catalog #85857	1 L
Catalog #85870	10 x 500 mL
Catalog #85875	25 x 500 mL



Scientists Helping Scientists™ | [WWW.STEMCELL.COM](http://WWW.STEMCELL.COM)

TOLL FREE PHONE 1 800 667 0322 • PHONE +1 604 877 0713

[INFO@STEMCELL.COM](mailto:INFO@STEMCELL.COM) • [TECHSUPPORT@STEMCELL.COM](mailto:TECHSUPPORT@STEMCELL.COM)

FOR GLOBAL CONTACT DETAILS VISIT OUR WEBSITE

## Product Description

mTeSR™1 medium is a complete, serum-free, defined formulation designed for the feeder-free maintenance and expansion of human embryonic stem (ES) cells<sup>1,2</sup> and human induced pluripotent stem (iPS) cells<sup>3-5</sup> in the undifferentiated state. 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 may be used with either Corning® Matrigel® hESC-Qualified Matrix (Corning Catalog #354277) or Vitronectin XF™ (Catalog #07180, a matrix developed and manufactured by Nucleus Biologics) as the culture matrix.

Each lot of mTeSR™1 5X Supplement is used to prepare complete mTeSR™1 medium and then performance-tested in a culture assay using human pluripotent stem cells (hPSCs).

## Product Information

CATALOG #	SIZE	COMPONENTS
85850	500 mL	<ul style="list-style-type: none"><li>mTeSR™1 Basal Medium (400 mL)</li><li>mTeSR™1 5X Supplement (100 mL)</li></ul>
85857	1 L	<ul style="list-style-type: none"><li>mTeSR™1 Basal Medium (800 mL)</li><li>mTeSR™1 5X Supplement (2 x 100 mL)</li></ul>
85870	10 x 500 mL	<ul style="list-style-type: none"><li>mTeSR™1 Basal Medium (10 x 400 mL)</li><li>mTeSR™1 5X Supplement (10 x 100 mL)</li></ul>
85875	25 x 500 mL	<ul style="list-style-type: none"><li>mTeSR™1 Basal Medium (25 x 400 mL)</li><li>mTeSR™1 5X Supplement (25 x 100 mL)</li></ul>

## Component Storage and Stability

The following components are sold as part of the mTeSR™1 medium kits (see Product Information) and are not available for individual sale.

COMPONENT NAME	COMPONENT #	STORAGE	SHELF LIFE
mTeSR™1 Basal Medium (400 mL)	85851	Store at 2 - 8°C.	Stable until expiry date (EXP) on label.
mTeSR™1 Basal Medium (800 mL)	85871	Store at 2 - 8°C.	Stable until expiry date (EXP) on label.
mTeSR™1 5X Supplement	85852	Store at -20°C.	Stable until expiry date (EXP) on label.

## Preparation of Complete mTeSR™1 Medium

Use sterile technique to prepare complete mTeSR™1 medium (Basal Medium + 5X Supplement). The following example is for preparing 500 mL of complete medium. If preparing 1 L of complete medium, add 2 x 100 mL of 5X Supplement to 800 mL of Basal Medium. If preparing other volumes, adjust accordingly.

NOTE: Thaw supplements or complete medium at room temperature (15 - 25°C) or overnight at 2 - 8°C. Do not thaw in a 37°C water bath.

1. Thaw mTeSR™1 5X Supplement and warm to room temperature. Mix thoroughly.

NOTE: mTeSR™1 5X Supplement may appear slightly cloudy after thawing. If this is noted, place in a 37°C water bath for approximately 5 minutes, swirling occasionally until supplement becomes clear. Supplement must be free of cloudiness before adding to basal medium (step 2).

NOTE: Once thawed, use supplement immediately or aliquot and store at -20°C for up to 3 months. Do not exceed the shelf life of the supplement. After thawing the aliquoted supplement, use immediately. Do not re-freeze.

2. Add 100 mL of mTeSR™1 5X Supplement to 400 mL of mTeSR™1 Basal Medium. Mix thoroughly.

NOTE: If not used immediately, store complete mTeSR™1 medium at 2 - 8°C for up to 2 weeks. Alternatively, aliquot and store at -20°C for up to 6 months. Do not exceed the shelf life of the individual components. After thawing the aliquoted complete medium, use immediately or store at 2 - 8°C for up to 2 weeks. Do not re-freeze.

If prepared aseptically, complete mTeSR™1 medium is ready for use. If desired, the medium can be filtered using a 0.2 - 0.22 µm low protein binding polyethersulfone (PES) filter unit (e.g. Fisher 09-741-04 [0.2 µm, 250 mL]; Fisher SCGP00525 [0.22 µm, 50 mL]).

## Directions for Use

For complete instructions on how to maintain human ES and iPS cells in mTeSR™1, refer to the Technical Manual: Maintenance of Human Pluripotent Stem Cells in mTeSR™1 (Document #10000005505) available at [www.stemcell.com](http://www.stemcell.com) or contact us to request a copy.

## Assessment of hPSCs

The following antibodies can be used to characterize hPSCs by flow cytometry or immunocytochemistry:

- Anti-Human SSEA-4 Antibody, Clone MC-813-70 (Catalog #60062)
- Anti-Human TRA-1-60 Antibody, Clone TRA-1-60R (Catalog #60064)
- Anti-Human OCT4 (OCT3) Antibody, Clone 3A2A20 (Catalog #60093)

For complete flow cytometry protocols and antibodies that can be used, refer to the Technical Manual: Maintenance of Human Pluripotent Stem Cells in mTeSR™1 (Document #10000005505), available at [www.stemcell.com](http://www.stemcell.com) or contact us to request a copy.

## Related Products

For related products, including specialized cell culture and storage media, matrices, antibodies, cytokines, and small molecules, visit [www.stemcell.com/hPSCworkflow](http://www.stemcell.com/hPSCworkflow) or contact us at [techsupport@stemcell.com](mailto:techsupport@stemcell.com).

## References

1. Ludwig TE et al. (2006) Derivation of human embryonic stem cells in defined conditions. *Nat Biotechnol* 24(2): 185–7.
2. Ludwig TE et al. (2006) Feeder-independent culture of human embryonic stem cells. *Nat Methods* 3(8): 637–46.
3. Yu J et al. (2007) Induced pluripotent stem cell lines derived from human somatic cells. *Science* 318(5858): 1917–20.
4. Masaki H et al. (2007) Heterogeneity of pluripotent marker gene expression in colonies generated in human iPS cell induction culture. *Stem Cell Res* 1(2): 105–15.
5. Sun N et al. (2009) Feeder-free derivation of induced pluripotent stem cells from adult human adipose stem cells. *Proc Natl Acad Sci USA* 106(37): 15720–5.



This product was developed under license to intellectual property owned by WiCell™ Research Institute.

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 Asterias Biotherapeutics, Inc. legal department at (650) 433-2900 or [legal@asteriasbio.com](mailto:legal@asteriasbio.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.

THIS PRODUCT IS MANUFACTURED AND TESTED FOLLOWING RELEVANT CGMPs UNDER A CERTIFIED QUALITY MANAGEMENT SYSTEM. PRODUCTS ARE FOR RESEARCH USE ONLY AND NOT INTENDED FOR HUMAN OR ANIMAL DIAGNOSTIC OR THERAPEUTIC USES UNLESS OTHERWISE STATED. FOR ADDITIONAL QUALITY INFORMATION, REFER TO [WWW.STEMCELL.COM/COMPLIANCE](http://WWW.STEMCELL.COM/COMPLIANCE).

Copyright © 2020 by STEMCELL Technologies Inc. All rights reserved including graphics and images. STEMCELL Technologies & Design, STEMCELL Shield Design, and Scientists Helping Scientists are trademarks of STEMCELL Technologies Canada Inc. mTeSR is a trademark of WARF. Corning and Matrigel are registered trademarks of Corning Incorporated. Vitronectin XF is developed and manufactured by Nucleus Biologics and Vitronectin XF is a trademark of Nucleus Biologics. All other trademarks are the property of their respective holders. While STEMCELL has made all reasonable efforts to ensure that the information provided by STEMCELL and its suppliers is correct, it makes no warranties or representations as to the accuracy or completeness of such information.