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

**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\(^1,2\) and human induced pluripotent stem (iPS) cells\(^3-5\) 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 β (rh TGFβ). Addition of further growth factors is not required.

mTeSR™1 may be used with either Corning® Matrigel® hESC-Qualified Matrix (Catalog #07181) 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**

<table>
<thead>
<tr>
<th>PRODUCT NAME</th>
<th>CATALOG #</th>
<th>SIZE</th>
<th>COMPONENTS</th>
</tr>
</thead>
</table>
| mTeSR™1      | 85850     | 500 mL     | • mTeSR™1 Basal Medium (400 mL)  
• mTeSR™1 5X Supplement (100 mL) |
| mTeSR™1      | 85857     | 1 L        | • mTeSR™1 Basal Medium (800 mL)  
• mTeSR™1 5X Supplement (2 x 100 mL) |
| mTeSR™1      | 85870     | 10 x 500 mL| • mTeSR™1 Basal Medium (10 x 400 mL)  
• mTeSR™1 5X Supplement (10 x 100 mL) |
| mTeSR™1      | 85875     | 25 x 500 mL| • mTeSR™1 Basal Medium (25 x 400 mL)  
• mTeSR™1 5X Supplement (25 x 100 mL) |

**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.

<table>
<thead>
<tr>
<th>COMPONENT NAME</th>
<th>COMPONENT #</th>
<th>STORAGE</th>
<th>SHELF LIFE</th>
</tr>
</thead>
<tbody>
<tr>
<td>mTeSR™1 Basal Medium (400 mL)</td>
<td>85851</td>
<td>Store at 2 - 8°C.</td>
<td>Stable until expiry date on label.</td>
</tr>
<tr>
<td>mTeSR™1 Basal Medium (800 mL)</td>
<td>85871</td>
<td>Store at 2 - 8°C.</td>
<td>Stable until expiry date on label.</td>
</tr>
<tr>
<td>mTeSR™1 5X Supplement</td>
<td>85852</td>
<td>Store at -20°C.</td>
<td>Stable until expiry date on label.</td>
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</tbody>
</table>

**Preparation of Complete mTeSR™1 Medium**

Use sterile techniques 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 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 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 or contact us at techsupport@stemcell.com.

References