TeSR™-E8™

Feeder-free, xeno-free culture medium for maintenance of human ES and iPS cells

Catalog #05940 500 mL Kit

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Product Description

TeSR™-E8™ is a highly defined feeder-free culture medium for human embryonic stem (ES) cells and human induced pluripotent stem (iPS) cells. It is based on the E8 formulation[1-2] published by Dr. James Thomson (University of Wisconsin-Madison), the lead researcher behind the mTeSR™1 formula[3-4]. TeSR™-E8™ contains a minimized set of the components required for maintenance of human ES and iPS cells, providing a simpler medium for the culture of pluripotent stem cells. This medium is low in protein compared to other conventional feeder-free culture medium such as mTeSR™1 (Catalog #85850) and TeSR™2 (Catalog #05860).

TeSR™-E8™ may be used with either Vitronectin XF™ (Catalog #07180, a matrix developed and manufactured by Primorigen Biosciences), or Corning® Matrigel® hESC-Qualified Matrix (Corning Catalog #354277) as the culture matrix.

Each lot of TeSR™-E8™ 20X Supplement and 500X Supplement is used to prepare complete TeSR™-E8™ medium and then performance tested in a culture assay using human pluripotent stem cells.

Product Information

The following components are sold as a complete kit (Catalog #05940) and are not available for individual sale.

COMPONENT NAME	COMPONENT #	SIZE	STORAGE	SHELF LIFE
TeSR™-E8™ Basal Medium	05941	474 mL	Store at 2 - 8°C.	Stable for 12 months from date of manufacture (MFG) on label.
TeSR™-E8™ 20X Supplement	05942	25 mL	Store at -20°C.	Stable for 12 months from date of manufacture (MFG) on label.
TeSR™-E8™ 500X Supplement	05943	1 mL	Store at -20°C.	Stable for 12 months from date of manufacture (MFG) on label.

Please refer to the Safety Data Sheet (SDS) for hazard information.

Preparation of Complete TeSR™-E8™ Medium

Use sterile techniques to prepare complete TeSR™-E8™ medium (Basal Medium + 20X Supplement + 500X Supplement). The following example is for preparing 500 mL of complete 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 TeSR™-E8™ 20X Supplement and TeSR™-E8™ 500X Supplement. Mix each supplement thoroughly.

   NOTE: Once thawed, use supplements immediately. Do not re-freeze.

2. Add (pipette) 25 mL of TeSR™-E8™ 20X Supplement and 1 mL of TeSR™-E8™ 500X Supplement to 474 mL of TeSR™-E8™ Basal Medium. Mix thoroughly.

   NOTE: If not used immediately, store complete TeSR™-E8™ medium in one of the following:

   - The TeSR™-E8™ Basal Medium bottle
   - 50 mL polypropylene tubes (e.g. Catalog #38010)
   - Corning® Square Polycarbonate Storage Bottles (Corning Catalog #431430 [125 mL]; #431431 [250 mL])

   Do not use other storage containers.

   Store complete 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 using sterile techniques, complete TeSR™-E8™ medium is ready for use and does not require filtering.

Directions for Use

For complete instructions on how to maintain human ES and iPS cells in TeSR™-E8™, refer to the Technical Manual: Maintenance of Human Pluripotent Stem Cells in TeSR™-E8™ (Document #29267), 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 TeSR™-E8™ (Document #29267), 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

1. Chen G et al. (2011) Chemically defined conditions for human iPSC derivation and culture. Nat Methods 8(5): 424–9.
2. Beers J et al. (2012) Passaging and colony expansion of human pluripotent stem cells by enzyme-free dissociation in chemically defined culture conditions. Nat Protoc 7(11): 2029–40.
3. Ludwig TE et al. (2006) Derivation of human embryonic stem cells in defined conditions. Nat Biotechnol 24(2): 185–7.
4. Ludwig TE et al. (2006) Feeder-independent culture of human embryonic stem cells. Nat Methods 3(8): 637–46.