TeSR™-AOF 3D

Animal origin-free suspension culture medium for human ESCs and iPSCs

Catalog #100-0720 1 Kit

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Product Description

TeSR™-AOF 3D is an animal origin-free culture medium developed for expansion and scale-up of undifferentiated human embryonic stem cells (hESCs) and human induced pluripotent stem cells (hiPSCs) as aggregates in 3D suspension culture. Based on TeSR™-AOF, TeSR™-AOF 3D is a robust medium with an optimized fed-batch protocol for scaling up hESC and hiPSC production in suspension culture. The novel fed-batch workflow saves time and media; daily feeds replenish nutrients and eliminate the need for medium exchanges on non-passaging days.

The TeSR™-AOF 3D system is compatible with cells previously cultured in mTeSR™1 (Catalog #85850), mTeSR™ Plus (Catalog #100-0276), TeSR™-AOF (Catalog #100-0401), or TeSR™-E8™ (Catalog #05990) on Corning® Matrigel® hESC-Qualified Matrix (Corning Catalog #354277), Vitronectin XF™ (Catalog #07180), or CellAdhere™ Laminin-521 (Catalog #77003). TeSR™-AOF 3D is compatible with a range of suspension culture vessels.

No materials of animal or human origin are used in the manufacture of this medium or its components, to at least the secondary level of manufacturing. TeSR™-AOF 3D is animal component-free to the secondary level. Each lot of TeSR™-AOF 3D Seed or Feed Supplement that is used to prepare complete TeSR™-AOF medium is performance-tested in a culture assay using human pluripotent stem cells.

Product Information

The following components are sold as part of the TeSR™-AOF 3D kit (Catalog #100-0720) and are not available for individual sale.

COMPONENT NAME	COMPONENT #	SIZE	STORAGE	SHELF LIFE
TeSR™-AOF 3D Seed Basal Medium	100-0721	480 mL	Store at 2 - 8°C.	Stable for 2 years from date of manufacture (MFG) on label.
TeSR™-AOF 3D Seed Supplement	100-0722	20 mL	Store at -20°C.	Stable for 2 years from date of manufacture (MFG) on label.
TeSR™-AOF 3D Feed Supplement	100-0723	20 mL	Store at -20°C.	Stable for 18 months from date of manufacture (MFG) on label.

Preparation of Media

A. TeSR™-AOF 3D Seed Medium

Use sterile technique to prepare TeSR™-AOF 3D Seed Medium (Basal Medium + Seed Supplement + Y-27632 [Dihydrochloride; Catalog #72302]).

The following example is for preparing 500 mL of medium. If preparing other volumes, adjust accordingly.

1. Thaw TeSR™-AOF 3D Seed Supplement at room temperature (15 - 25°C) or overnight at 2 - 8°C. Do not thaw in a 37°C water bath. Mix thoroughly.

   NOTE: Precipitate may be visible; warm to room temperature until dissolved. Performance will not be affected.

   NOTE: If not using immediately, store TeSR™-AOF 3D Seed Supplement in one of the following containers:

   - TeSR™-AOF 3D Seed Supplement bottle
   - 50 mL polypropylene tubes (e.g. Catalog #38010)
   - 2 mL or 0.5 mL polypropylene micro tubes (e.g. Sarstedt Catalog #72.694.006 or 72.730.005)

   Do not use other storage containers. Store TeSR™-AOF 3D Seed Supplement at -20°C for up to 3 months. Do not exceed the shelf life of the supplement. After thawing the aliquots, use immediately. Do not re-freeze.

2. Add 20 mL of TeSR™-AOF 3D Seed Supplement to 480 mL of TeSR™-AOF 3D Seed Basal Medium. Mix thoroughly. If desired, the medium can be filtered using a 0.2 µm low-protein binding filter.

   NOTE: If not using immediately, store TeSR™-AOF 3D Seed Medium (without Y-27632 [Dihydrochloride]) in one of the following containers:

   - TeSR™-AOF 3D Seed Basal Medium bottle
   - 50 mL polypropylene tubes (e.g. Catalog #38010)

Do not use other storage containers. Store TeSR™-AOF 3D Seed Medium (without Y-27632 [Dihydrochloride]) 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 aliquots, proceed to step 3 and use immediately, or store at 2 - 8°C for up to 2 weeks. Do not re-freeze.

3. Immediately before use, add 10 µM Y-27632 (Dihydrochloride). Mix thoroughly.

B. TeSR™-AOF 3D Feed Supplement

Thaw TeSR™-AOF 3D Feed Supplement at room temperature (15 - 25°C) or overnight at 2 - 8°C. Do not thaw in a 37°C water bath. Mix thoroughly.

NOTE: Precipitate may be visible, and/or supplement may appear cloudy. Warm the supplement to room temperature until all precipitate has dissolved and the solution no longer appears cloudy. Performance will not be affected.

NOTE: If not using immediately, store TeSR™-AOF 3D Feed Supplement in one of the following containers:

- TeSR™-AOF 3D Feed Supplement bottle
- 50 mL polypropylene tubes (e.g. Catalog #38010)
- 2 mL or 0.5 mL polypropylene micro tubes (e.g. Sarstedt Catalog #72.694.006 or 72.730.005)

Do not use other storage containers. Store TeSR™-AOF 3D Feed Supplement at 2 - 8°C for up to 2 weeks. Alternatively, aliquot and store at -20°C for up to 3 months. Do not exceed the shelf life of the supplement. After thawing the aliquots, use immediately or store at 2 - 8°C for up to 2 weeks. Do not re-freeze.

Directions for Use

For complete instructions on how to culture hESCs and hiPSCs in TeSR™-AOF 3D, refer to the Technical Manual: Expansion of Human Pluripotent Stem Cells as Aggregates in Suspension Culture Using TeSR™-AOF 3D (Document #10000010775), available at www.stemcell.com, or contact us to request a copy.

Accelerating stem cell technologies

TeSR™-AOF 3D is manufactured and sold under global exclusive license from Accellta for culture medium for hPSCs in suspension under feeder-free, non-adherent conditions.

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