

Vitronectin XF™

Matrix for Maintenance of Human ES/iPS Cells in Combination with mTeSR™1, TeSR™-E8, or TeSR™2

Catalog #07180

2 mL



Scientists Helping Scientists™ | WWW.STEMCELL.COM

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

INFO@STEMCELL.COM • TECHSUPPORT@STEMCELL.COM

FOR GLOBAL CONTACT DETAILS VISIT OUR WEBSITE

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

Product Description

Vitronectin XF™, developed and manufactured by Primorigen Biosciences, Inc., is an effective alternative to Corning® Matrigel®. Vitronectin XF™ is a defined, xeno-free matrix that supports the growth and differentiation of human pluripotent stem cells. When used with mTeSR™1 (Catalog #05850), TeSR™2 (Catalog #05860) or TeSR™-E8™ (Catalog #05940), Vitronectin XF™ provides a completely defined culture system for the maintenance of human embryonic stem (ES) cells and human induced pluripotent stem (iPS) cells under feeder-free conditions.¹⁻⁵ This system allows complete control over the culture environment, resulting in more consistent cell populations and reproducible results in downstream applications.

Properties

Storage: Store at -20°C or -80°C.

Shelf Life: Stable until expiry date (EXP) on label.

Contains: A 250 µg/mL solution of single recombinant protein composed of entirely human sequences.

Materials Required But Not Included

PRODUCT NAME	CATALOG #
CellAdhere™ Dilution Buffer	07183
Non-Tissue Culture-Treated 6-well Plates	27147
50 mL polypropylene conical tube	Corning #352070

Directions for Use

COATING CULTUREWARE WITH VITRONECTIN XF™

Use sterile techniques when coating cultureware with Vitronectin XF™.

1. Thaw Vitronectin XF™ at room temperature (15 - 25°C).

NOTE: If not used immediately, store at 2 - 8°C for up to 2 weeks. Alternatively, aliquot and store at -20°C or -80°C. Do not exceed the expiry date (EXP) as indicated on the label. Avoid additional freeze-thaw cycles.

2. Dilute Vitronectin XF™ in CellAdhere™ Dilution Buffer to reach a final concentration of 10 µg/mL (i.e. use 40 µL of Vitronectin XF™ per 1 mL of CellAdhere™ Dilution Buffer). Use a 50 mL polypropylene conical tube to dilute the Vitronectin XF™.
3. Gently mix the diluted Vitronectin XF™. Do not vortex.
4. Immediately use the diluted Vitronectin XF™ solution to coat non-tissue culture-treated cultureware. See Table 1 for recommended coating volumes.

Table 1. Recommended Volumes for Coating Cultureware with Vitronectin XF™

CULTUREWARE	VOLUME OF DILUTED VITRONECTIN XF™
6-well plate	1 mL/well
100 mm dish	6 mL/dish
T-25 cm² flask	3 mL/flask
T-75 cm² flask	8 mL/flask

5. Gently rock the cultureware back and forth to spread the Vitronectin XF™ solution evenly across the surface.
NOTE: Non-tissue culture-treated cultureware should be used for coating with Vitronectin XF™. If the cultureware's surface is not fully coated by the Vitronectin XF™ solution, it should not be used for human ES and iPS cell culture.
6. Incubate at room temperature (15 - 25°C) for at least 1 hour before use. Do not let the Vitronectin XF™ solution evaporate.
NOTE: If not used immediately, the cultureware must be sealed to prevent evaporation of the Vitronectin XF™ solution (e.g. with Parafilm®) and can be stored at 2 - 8°C for up to 1 week after coating. Allow stored coated cultureware to come to room temperature (15 - 25°C) for 30 minutes before moving onto the next step.
7. Gently tilt the cultureware on to one side and allow the excess Vitronectin XF™ solution to collect at the edge. Remove the excess solution using a serological pipette or by aspiration. Ensure that the coated surface is not scratched.
8. Wash the cultureware once using CellAdhere™ Dilution Buffer (e.g. use 2 mL/well if using a 6-well plate).
9. Aspirate wash solution and add the appropriate volume of culture medium (e.g. 2 mL/well if using a 6-well plate).

To passage ES and iPS cells cultured on Vitronectin XF™ in TeSR™ media, refer to the Technical Manuals: Maintenance of Human Pluripotent Stem Cells in mTeSR™1 (Document #29106), TeSR™2 (Document # 28210) or TeSR™-E8™ (Document #29267). These documents are available on our website at www.stemcell.com or contact us to request a copy.

References

1. Braam SR et al. (2008) Recombinant vitronectin is a functionally defined substrate that supports human embryonic stem cell self-renewal via α 5 β 1 integrin. *Stem Cells* 26(9): 2257–65.
2. Chen G et al. (2011) Chemically defined conditions for human iPSC derivation and culture. *Nat Methods* 8(5): 424–9.
3. Li J et al. (2010) Impact of vitronectin concentration and surface properties on the stable propagation of human embryonic stem cells. *Biointerphases* 5(3): FA132–42.
4. Prowse ABJ et al. (2010) Long term culture of human embryonic stem cells on recombinant vitronectin in ascorbate free media. *Biomaterials* 31(32): 8281–8.
5. Rowland TJ et al. (2010) Roles of integrins in human induced pluripotent stem cell growth on Matrigel and vitronectin. *Stem Cells Dev* 19(8): 1231–40.



STEMCELL TECHNOLOGIES INC.'S QUALITY MANAGEMENT SYSTEM IS CERTIFIED TO ISO 13485 MEDICAL DEVICE STANDARDS.

Copyright © 2015 by STEMCELL Technologies Inc. All rights reserved including graphics and images. STEMCELL Technologies & Design, STEMCELL Shield Design, Scientists Helping Scientists, and CellAdhere are trademarks of STEMCELL Technologies Inc. Vitronectin XF is developed and manufactured by Primorigen Biosciences Inc., and Vitronectin XF is a trademark of Primorigen Biosciences, Inc. E8, mTeSR and TeSR are trademarks of WARF. Matrigel is a trademark of Corning Incorporated. Parafilm is a registered trademark of Bemis Company, Inc. 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.