

Product Information

EX-CELL™ Vero Serum-Free Medium for Vero Cells

without L-glutamine

CATALOG NO. 14585C

Description

EX-CELL™ Vero is a serum-free, animal-component free, low-protein liquid medium developed for the long-term growth of African Green Monkey Kidney (Vero) cells. The cells, in an attachment culture, can be subcultured directly into EX-CELL™ Vero from serum-supplemented media with little or no adaptation. Cell densities and doubling times achieved are comparable to those achieved in a serum-supplemented culture.

Formulation

The formulation for EX-CELL™ Vero is proprietary to SAFC Biosciences. For additional information please call our Technical Services department.

Precautions

Use aseptic technique when handling or supplementing this medium. This product is for research or for further manufacturing use. THIS PRODUCT IS NOT INTENDED FOR HUMAN OR THERAPEUTIC USE.

Storage

Store liquid medium at 2 to 8 C, protected from light. Do not use after the expiration date.

Indications of Deterioration

Medium should be clear and free of particulates and flocculent material. Do not use if liquid medium is cloudy or contains precipitate. Other evidence of deterioration may include color change, pH shift or degradation of physical or performance characteristics.

Preparation Instructions

EX-CELL™ Vero is formulated with sodium bicarbonate and without L-glutamine. Prior to use, this medium should be supplemented with 4 mM L-glutamine by adding 20 mL/L of a 200 mM solution (Catalog No. 59202C). SAFC Biosciences recommends L-glutamine supplementation of the working volume only. SAFC Biosciences also recommends the supplementation of 10 - 25 mM HEPES buffer in applications outside of a pH-controlled environment (such as stationary T-flasks, roller bottles and spinner flasks) by supplementing with 10 - 25 mL/L of HEPES Solution 1M (Catalog No. 59205C). Supplements, such as antibiotics, can be added to the sterilized medium using aseptic technique. Storage conditions and shelf life of the product may be affected by the nature of the supplement.

Methods for Use

Adaptation

Vero cells that have been grown in a conventional serum-supplemented medium can be readily grown in EX-CELL™ Vero, with little or no adaptation. Adaptation to EX-CELL™ Vero requires healthy, viable cultures in mid-logarithmic growth phase. During adaptation, growth rates will usually be somewhat slower than normal expected rates.

1. Subculture the cells from serum-supplemented medium to EX-CELL™ Vero supplemented with 4 mM L-glutamine using standard trypsinization techniques when cultures reach 100% confluence.

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- Inactivate the trypsin with trypsin inhibitor from Glycine max (soybean) (STI) (0.1%) (Sigma-Aldrich Co., Product No. T6522) at a 1:4-5 relationship of trypsin to STI. Using low-speed centrifugation, pellet the cell suspension at 200 *g* for 5 minutes and carefully decant the supernatant without disturbing the cell pellet.
- Resuspend the cells in EX-CELL™ Vero medium supplemented with 4 mM L-glutamine at a density of 2-4 x 10⁴ cells/cm².
- Cells are considered fully adapted to EX-CELL™ Vero when growth rates return to normal densities and viabilities are above 95%.
- Continue to subculture the cells in EX-CELL™ Vero at a density of at least 2 x 10⁴ cells/cm².

Culture Techniques

Vero cells are normally grown at 37 ± 1 C and 5% CO₂. Allow the medium to warm to room temperature prior to use. Once fully adapted, the cells should be passed at a seeding density of at least 2 x 10⁴ cells/cm².

Cells grown in medium without serum are extremely fragile and sensitive to the trypsin used to remove adherent cells from a substrate. For successful results, care must be taken when subculturing cells.

SAFC Biosciences recommends the use of a soybean trypsin inhibitor (0.1%), followed by centrifugation to remove the trypsin. Soybean trypsin inhibitor should be used with caution, as it is toxic to many cells. Cells may also be dislodged by NO-ZYME™ (Catalog No. 59226C), a non-enzymatic dissociating agent.

Cryopreservation

Freezing:

Cells can be frozen in EX-CELL™ Vero without the reintroduction of serum.

- Choose cultures in logarithmic growth with viabilities above 90%.
- Prepare a freezing medium consisting of 45% cold EX-CELL™ Vero medium, 45% spent medium and 10% dimethyl sulfoxide (DMSO).
- Using trypsinization protocol as detailed previously, collect and centrifuge the cells at 200 *g* for 5 minutes. Remove the supernatant without disturbing the cell pellet.
- Resuspend the cells in the freezing medium at 1 x 10⁷ cells/mL.
- Rapidly transfer 1 - 2 mL of this suspension to sterile cryovials.
- Place the vials at -20 C for 3 - 4 hours, then transfer to -70 C for 16 - 24 hours.
- For long-term storage, transfer the vials to liquid nitrogen vapor.

Thawing:

- Rapidly thaw a vial of frozen cells in a 37 C water bath.
- Transfer the cells aseptically to a centrifuge tube containing 10 mL of cold EX-CELL™ Vero medium.
- Using low-speed centrifugation, pellet the cell suspension 200 *g* for 5 minutes and carefully decant the supernatant without disturbing the cell pellet.
- Resuspend the cells in 5 mL of EX-CELL™ Vero medium.
- Count the cells for viability and transfer to a sterile tissue culture flask at a seeding density of 2-4 x 10⁴ cells/cm².
- Pass the cells using standard cell culture techniques.

Characteristics

Appearance

Clear yellow solution

Endotoxin

Refer to Certificate of Analysis

Osmolality (as supplied)

285 – 315 mOsm/kg H₂O

pH (as supplied)

7.0 - 7.4

Sterility

No microbial growth detected

Warranty, Limitation of Remedies

SAFC Biosciences warrants to the purchaser for a period of one year from date of delivery that this product conforms to its specifications. Other terms and conditions of this warranty are contained in SAFC Biosciences' written warranty, a copy of which is available upon request. ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING THE IMPLIED WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE EXCLUDED. In no case will SAFC Biosciences be liable for any special, incidental, or consequential damages arising out of this product or the use of this product by the customer or any third party based upon breach of warranty, breach of contract, negligence, strict tort, or any other legal theory. SAFC Biosciences expressly disclaims any warranty against claims by any third party by way of infringement or the like. THIS PRODUCT IS INTENDED FOR PURPOSES DESCRIBED ONLY AND IS NOT INTENDED FOR ANY HUMAN OR THERAPEUTIC USE.

Additional Terms and Conditions are contained in the product Catalog, a copy of which is available upon request.

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