Cell-Vive™ MSC Xeno-Free Growth Media, GMP

Catalog# / Size

420519 / 250 mL
420520 / 500 mL

Other Names

Mesenchymal Stromal Cells, Medicinal Signaling Cells, Multipotent Stromal Cells

Description

The Cell Vive™ MSC Xeno-Free Growth Media, GMP, is designed to support the expansion of human bone marrow-, adipose tissue- or umbilical cord tissue-derived mesenchymal stem cells (MSCs). Cell Vive™ MSC Xeno-Free Growth Media, GMP, is prepared without nonhuman components or phenol red. It is suitable for culturing and expansion of MSCs without the need to supplement with FBS. When used under appropriate conditions, this media demonstrates higher performance than FBS containing media without affecting the phenotype of the cultured cells. Performance is based on cell counts and viability. Benefits of this growth media:

- Xeno-Free, Serum-Free & without Phenol Red
- Additional supplementation with serums not required
- Able to support and maintain MSC expansion
- Manufactured in a GMP facility according to USP <1043>

Quality Statement

BioLegend Cell-Vive™ GMP cell culture products are manufactured and tested in accordance with USP Chapter 1043, Ancillary Materials for Cell, Gene and Tissue- Engineered Products and Ph. Eur. Chapter 5.2.12 in a dedicated GMP facility compliant with ISO 13485:2016. Specifications and processes include

- Low endotoxin level (< 1 EU/mL)
- Mycoplasma and bacterial/fungal growth testing
- Batch-to-batch consistency
- Vendor qualification
- Raw material traceability and documentation
- Documented procedures and employee training
- Equipment maintenance and monitoring records
- Lot-specific certificates of analysis
- QA review of released products
- Quality audits per ISO 13485:2016

Product Details

Formulation

Xeno- and Serum-Free, GMP formulated MSC Xeno- Free Growth Media without Phenol Red.

Endotoxin Level

< 1 EU/mL

Preparation

Thaw media overnight or longer until fully thawed at 2-8°C. The media is ready to use after thaw.

Storage & Handling

Store at frozen between -20°C to -5°C. Thaw overnight at 2-8°C. If necessary, product can be kept at 2-8°C for up to two weeks.

Application

Cell Culture - Quality tested
Mesenchymal Stem Cell Culture - Verified in house

Recommended Usage

Cell-Vive™ MSC Xeno-Free Growth Media, GMP is a completed medium that is ready to use. Suggested cell seeding density of 6,000 cells/cm^2 when used to support MSC expansion.

Application Notes

This product is a complete media formulation that is ready to use for culturing bone marrow-, adipose tissue- or umbilical cord tissue-derived mesenchymal stem cells. It can be used without any cell attachment. However, pending on the tissue sourced MSCs, recombinant human fibronectin (Cat#775314) can be used to further optimize the expansion.

The presence of trace precipitation in the product after thaw is normal and relates to the high enrichment of the product and should not impact its performance. The precipitates should go into solution after warming up the media in 37°C water bath or equivalent, or if desired, precipitates can be removed through 0.22 µm filtration of the media without impacting its performance.

Cell Culture Platform:
Cell-Vive™ MSC Xeno-Free Growth Media, GMP can be used with tissue culture plates, and flasks. Further protocol optimization is recommended with the specific bioreactor being used.

MSC culture from cryopreserved human MSCs:

1. Thaw media overnight or longer until fully thawed at 2-8°C.
2. Pre-warm planned volume of completed thawed with Cell-Vive™ MSC Xeno-Free Growth Media to 37°C.
3. Rapidly thaw frozen vial of cells in a 37°C water bath. After the vial is 80-90% thawed, pipet the entire contents of the cryovial into a 15 mL conical tube. Carefully add 5 to 10 mL of pre-warmed Cell-Vive™ MSC Xeno-Free Growth Media at an approximate rate of three to five drops per ten seconds and gently swirl after every addition.
4. After brief mixing, centrifuge the 15 mL conical tubes at 1500 rpm for 5 min. Decant (or aspirate) the supernatant. Add 2 mL or desired volume of pre-warmed Cell-Vive™ MSC Xeno-Free Growth Media, gently mix the cells with a sterile 1 mL serological pipette. Count the cells and viability with hemocytometer, or equivalent.

5. Resuspend cells and seed MSCs at 6,000 cells/cm^2 density. Incubate the cells at 37°C, 5% CO_2. Aspirate off media and feed the cells with pre-warmed Cell-Vive™ MSC Xeno-Free Growth Media 24 hours after seeding.
6. Every two days, remove and discard spent media, and feed the cells with pre-warmed Cell-Vive™ MSC Xeno-Free Growth Media
7. Subculture cells once they reach 80% confluence. Do not allow the cultures to become 100% or over confluent. Subculturing under suboptimal conditions may affect product performance.

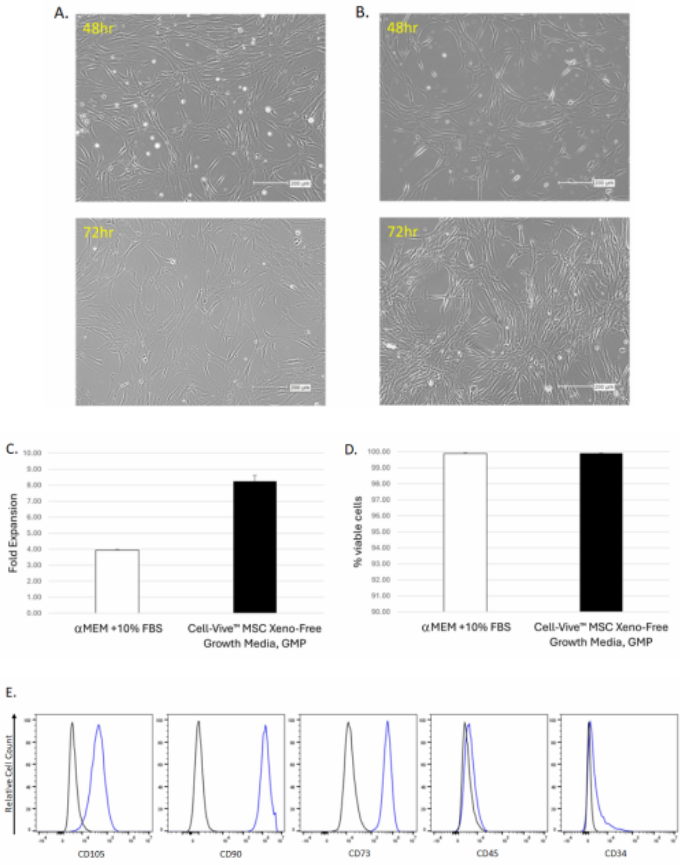
Disclaimer

BioLegend Cell-Vive™ GMP Cell Culture products are for research use only. Suitable for *ex vivo* cell processing. Not for injection or diagnostic or therapeutic use. Not for resale. BioLegend will not be held responsible for patent infringement or other violations that may occur with the use of our products.

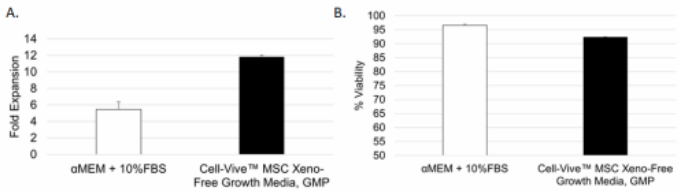
Antigen Details

Gene ID NA

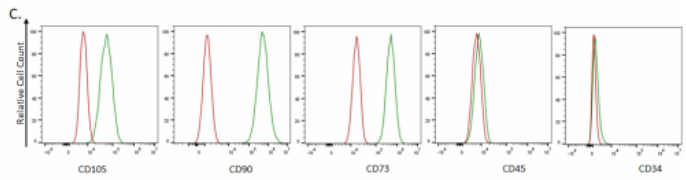
Product Data



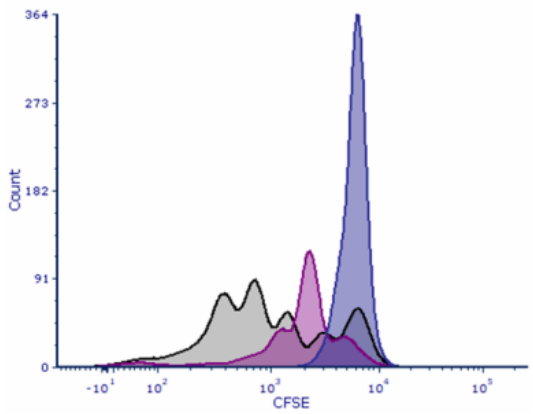
Figures 1. Human Bone Marrow-derived Mesenchymal Stem Cells (BM-MSCs) were seeded at a density of 6,000 cells/cm^2 at 37°C and 5% CO_2 in either αMEM containing 10% FBS or Cell-Vive™ MSC Xeno-Free Growth Media (cat#420519). Morphology of adherent cells grown in either (A) αMEM containing 10% FBS (B) or Cell-Vive™ MSC Xeno-Free Growth Media were observed 48-and 72-hours post-seeding. Cell expansion(C) and Cell viability (D) in αMEM containing10% FBS (white bar) or Cell-Vive™ MSC Xeno-Free Growth Media (cat#420519, black bar) were determined on Day 4. Representative BM-MSCs cultured in Cell-Vive™ MSC Xeno-Free Growth Media, GMP, on Day 5 were harvested & analyzed by Flow Cytometry (E) using PE anti-human CD105 (Clone 43A3, Cat#323206), PE/Cyanine7 anti-human CD90 (Clone 5E10, Cat# 328124), PE/Cyanine7 anti-human CD73 (clone AD2, Cat# 344044), FITC anti-human CD45 (Clone HI30, Cat# 304054), and APC anti-human CD34 (Clone 581, Cat#343510). Cells were positive for CD105, CD90 and CD73 but lacked CD45 and CD34 expression (Blue lined histogram). Isotype matched controls were included (Black lined histogram).



Figures 2. Human Adipocyte-derived Mesenchymal Stem Cells (AD-MSCs) were seeded at a density of 6,000 cells/cm at 37°Cand 5% CO_2 in either αMEM containing 10% FBS or Cell-Vive™ MSC Xeno-Free Growth Media (cat#420519) for 5 days. Cell expansion (A) and cell viability (B) in αMEM containing 10% FBS (white bar) or Cell-Vive™ MSC Xeno-Free Growth Media (cat#420519, black bar) were determined on Day 5. Representative AD-MSCs cultured in Cell-Vive™ MSC Xeno-Free Growth Media on Day 5 were harvested and analyzed by Flow Cytometry (C) using PE anti-humanCD105 (Clone 43A3, Cat# 323206), PE/Cyanine7 anti-human CD90 (Clone 5E10,Cat# 328124), PE/Cyanine7 anti-humanCD73 (clone AD2, Cat# 344044), FITC anti-human CD45 (Clone HI30, Cat# 304054), and APC anti-human CD34 (Clone 581, Cat#343510). Cells were positive for CD105, CD90 and CD73 but lacked CD45 and



CD34 expression (Green lined histogram). Isotype matched controls were included (Red lined histogram).



Figures 3. Human Bone Marrow-derived Mesenchymal Stem Cells (BM-MSCs) were cultured in Cell-Vive™ MSC Xeno-Free Growth Media (cat#420519). A cell proliferation assay was performed using CFSE-labeled human PBMC-derived CD3+ T cells stimulated with CD3/CD28 activation beads. Non-activated CD3+ T cells without MSC co-culture were arrested at the parent generation (Blue histogram). Activated CD3+ T cells proliferated for 4 days without MSC co-culture show low fluorescent intensity indicating cell division (Black histogram). Proliferation of CD3+ T cells stimulated with CD3/CD28 activation beads show higher fluorescent intensity when co-cultured with MSCs (Purple histogram), indicating less active CD3+ T cell proliferations from BM-MSCs-mediated immune modulations.

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