



Product Information Sheet

OptiElite MSC Growth Medium

Catalog Numbers: ORF.OEMSC-450, ORF.OEMSC-900

Product Overview	
Product Name	OptiElite MSC Growth Medium
Catalog Numbers	ORF.OEMSC-450, ORF.OEMSC-900
Sizes	450 mL, 900 mL
Product Form	Liquid
Companion Cell Type	Human Mesenchymal Stem Cells
Additional Reagents Required	High grade or fully defined Fetal Bovine Serum (FBS) Penicillin/Streptomycin/Amphotericin B solution or Penicillin/Streptomycin solution

Product Description	Product Image
<p>ORF Biologics' OptiElite MSC Growth Media is a high-performance media formulation engineered to support the vigorous, reliable expansion of mesenchymal stem cells including Human Bone Marrow-Derived and Human Adipose-Derived Mesenchymal Stem Cells. Designed for high-density culture, OptiElite MSC Growth Media promotes strong proliferation while preserving MSC morphology, viability, and multipotent potential across multiple passages. Its optimized composition maintains cell health under demanding growth conditions and delivers consistent performance from thaw to expansion. The media is fully compatible with widely used transfection reagents, enabling efficient gene delivery and downstream functional studies without compromising growth characteristics. With a formulation built for stability, reproducibility, and ease of use, OptiElite MSC Growth Media provides a dependable platform for MSC culture while maintaining optimal stem cell quality and biological integrity.</p>	

For research applications only. Not for diagnostic or therapeutic use.



Media Formulation Protocol	
Defrosting/Preparation	Thaw 50 mL for ORF.OEMSC-450 or 100 mL for ORF.OEMSC-900 of Fetal Bovine Serum (FBS) (not included) and 5 mL for ORF.OEMSC-450 or 10 mL for ORF.OEMSC-900 of antibiotic-antimycotic solution (not included) in a 37°C water bath until no visible ice remains. Immediately disinfect the exterior of the tubes and the base medium bottle using 70% isopropanol before proceeding to aseptic handling.
Mixing	Working under sterile conditions in a laminar flow hood, aseptically remove and discard 5 mL of ORF.OEMSC-450 or 10 mL of ORF.OEMSC-900 base medium from the bottle to accommodate supplement additions. Add 50 mL for ORF.OEMSC-450 or 100 mL for ORF.OEMSC-900 of thawed Fetal Bovine Serum (FBS), followed by 5 mL for ORF.OEMSC-450 or 10 mL for ORF.OEMSC-900 of antibiotic-antimycotic solution, to the remaining base medium. Replace the cap securely and gently swirl the bottle to ensure thorough mixing. The medium is now fully supplemented and ready for use in cell culture applications.

Cell Thawing and Plating Protocol for Mesenchymal Stem Cells (not included)	
Thawing	To thaw Human Bone Marrow Derived Mesenchymal Stem Cells (ORF.HBMMSC-500) or Human Adipose Derived Mesenchymal Stem Cells (ORF.HADMSC-500), remove the vial from dry ice or liquid nitrogen storage and promptly place it in a 37°C water bath. Gently agitate the vial continuously while monitoring for thawing. As soon as only a small amount of ice remains, remove the vial from the bath to prevent over-thawing, which can compromise cell viability. Immediately disinfect the outside of the vial using 70% isopropanol before proceeding to the next step.
Plating	Working under sterile conditions in a laminar flow hood, carefully open the vial and transfer the contents to a sterile 15 mL conical tube. Slowly add approximately 9 mL of supplemented OptiElite MSC Growth Medium, pre-warmed to 37°C, to the cell suspension. Centrifuge the tube at 200 × g for 10 minutes to pellet the cells. After centrifugation, discard the supernatant and gently resuspend the pellet in an appropriate volume of fresh, pre-warmed supplemented OptiElite MSC Growth Medium to achieve a plating density of 20,000 cells per cm ² of surface area. Transfer the resuspended cells into a suitable culture flask or dish. After 24 hours, aspirate the medium, and replace with fresh, pre-warmed supplemented OptiElite MSC Growth Medium.
Observation and Expansion	Following thawing, it is normal for hAD-MSCs or hBM-MSCs to grow slowly during the first week. Some cell loss may occur during initial medium exchanges, which is expected. Once the culture reaches approximately 70–80% confluence, the cells should be sub-cultured using a 1:3 split ratio. For passaging, use 0.25% Trypsin-EDTA solution (not included), following standard cell culture protocols.

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Storage and Stability		
	Storage Temperature	Storage Time
OptiElite MSC Growth Medium (Base Media) (ORF.OEMSC-450, ORF.OEMSC-900)	2-8°C	3 months
Supplemented OptiElite MSC Growth Medium	2-8°C	Up to 3 weeks
Companion Mesenchymal Stem Cells (ORF.HBMMSC-500 or ORF.HADMSC-500)	Liquid Nitrogen	12 months

Avoid repeated freeze-thaw cycles for cells. Avoid repeated exposure to room temperature and light for media.



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