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Product Information Sheet

Human Adipogenic Differentiation Media

Catalog Number: MR1007

Product Overview	
Product Name	**Human Adipogenic Differentiation Media**
Catalog #s	MR1007
Quantity	450 mL
Product Form	Liquid
Cell Type	Human Adipose-Derived MSCs (CR1004-500) or Human Bone Marrow-Derived MSCs (CR1005-500)
Reagents Needed	Customer choice of high grade or fully defined Fetal Bovine Serum (FBS) (not included) Penicillin/Streptomycin/Amphotericin B solution or Penicillin/Streptomycin solution, 100X (not included)[1]

Product Description

Human Adipogenic Differentiation Media

Human Adipogenic Differentiation Media is a specialized, high-performance formulation designed to support the efficient differentiation of mesenchymal stem cells (MSCs) into mature adipocytes. This complete media system provides the essential nutrients, growth factors, and differentiation signals required for reliable and reproducible adipogenic induction. MR1007 is ideal for applications in regenerative medicine, metabolic research, drug discovery, and obesity-related studies.
Our Human Adipogenic Differentiation Media is versatile and adaptable, making it compatible with a range of animal-origin serums. Researchers can customize supplementation according to their experimental requirements, ensuring optimal performance in various adipogenesis studies. This flexibility helps maintain consistency in cell differentiation and lipid accumulation assays, reducing variability and improving experimental outcomes.

Engineered for superior cell viability and functionality, this media supports robust adipocyte formation, allowing researchers to generate physiologically relevant fat cell models. Its optimized formulation minimizes batch-to-batch inconsistencies, improving data reproducibility and enhancing overall research efficiency. Whether used for adipogenesis studies, drug screening, tissue engineering, or metabolic disease modeling, MR1007 provides the precision and reliability required for advanced stem cell research.

By offering a stable, defined environment for adipogenic differentiation, our media simplifies workflows and accelerates experimental timelines. Researchers can confidently use MR1007 to explore adipocyte biology, assess potential therapeutics, and investigate fat metabolism and related disorders.

Recommended Uses:

- For use with the following cell types
  - Human Adipose-Derived Mesenchymal Stem Cells (CR1004-500)
  - Human Bone Marrow-Drived Mesenchymal Stem Cells (CR1005-500)

Shipping & Storage:

- Media is shipped with gel packs to maintain stability and preserve critical components.
- Store at the recommended temperature upon arrival for maximum shelf life and performance.

Note: This product is designed and tested to function with Cellular Engineering Technologies Inc. (“CET”) product CR1004-500 Human Adipose-Derived Mesenchymal Stem Cells (MSCs), and CR1005-500 Human Bone Marrow-Derived Mesenchymal Stem Cells (MSCs) (not included). Although investigators are welcome to use this product with other human mesenchymal stem cells, CET cannot guarantee this product’s performance with an unknown cell type. Additionally, such use of third-party cell lines with this product will void CET’s warranty should they not function as indicated. Please refer to CET’s Terms & Conditions, which are available on www.cet.bio.

Product Image

Media Formulation Instructions

FOR RESEARCH APPLICATIONS ONLY. NOT FOR DIAGNOSTIC OR THERAPEUTIC USE.

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Defrosting / Preparation	Defrost 50mL of FBS (not included) and 5mL of antibiotic/antimycotic solution (not included) in a 37°C water bath until ice in the tubes are no longer visible. Immediately disinfect the tubes and the bottle containing this base media with 70% isopropanol (not included).
Mixing	Working in a laminar flow hood, remove 5mL of the base media from the bottle and discard. This and all other procedures must be done in a sterile manner. Add 50mL of FBS to this base media. Add 5mL of the antibiotic/antimycotic solution to the base media[1]. Cap the bottle containing the mixed liquid solution and gently swirl a few times. This formulated media is now considered complete media and ready to use with cells.

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Cell Thawing and Plating Instructions (for CR1005-500 Human Bone Marrow-Derived Mesenchymal Stem Cells not included)	
Thawing	Remove the vial of Human Bone Marrow-Derived Mesenchymal Stem Cells (CR1005-500) (not included) from dry ice. Defrost the vial of cells in a 37°C water bath with constant, moderate agitation until ice in the ampoule is barely visible. DO NOT OVERTHAW. Immediately disinfect the vial with 70% isopropanol (not included), making sure no isopropanol enters the vial.
Mixing	Working in a laminar flow hood, open the vial and transfer the contents to a sterile 15 mL tube. Very slowly, add approximately 10 mL of complete media (see Media Formulation Instructions), pre-warmed to 37°C before use. Centrifuge suspended cells at 200 x g for 10 minutes. Decant the medium and gently resuspend the pellet in the appropriate amount of complete media necessary to achieve a plating density of 20,000 cells/cm2 of surface area. After 24 hours, aspirate media from the flask or dish, rinse with 1X Dulbecco's Phosphate Buffered Saline (not included), and replenish with fresh complete media, pre-warmed to 37°C before use.
Observation	It is normal for these cells to grow slowly initially, for a period of one-week post-thaw. It is also normal for some cells to be shed during media changes. Subculture cells at a 1:3 split ratio using 0.25% Trypsin/EDTA (not included).

Storage and Stability		
	Storage Temperature	**Storage Time**
Human Adipogenic Differentiation Kit	4°C	3 months
Human Bone Marrow-Derived Mesenchymal Stem Cells (not included)	-80°C (preferably in the vapor phase of a liquid nitrogen storage unit)	12 months
complete media *(see Media Formulation Instructions)*	4°C	Not applicable
Avoid repeated exposure to room temperature and light.		

Publications and Product Citations
Beneficial effect of PEDF-transfected ADSCs on erectile dysfunction in a streptozotocin-diabetic rat model Lu J. et al. | Cell and Tissue Research 2016 DEC Department of Urology, Shanghai General Hospital, **Shanghai Jiao Tong University School of Medicine.**
Low oxygen tension enhances proliferation and maintains stemness of adipose tissue-derived stromal cells Yamamoto Y. et al. | BioResearch Division of Environmental Medicine, National Defense Medical Research Institute, **National Defense Medical College**
A novel regulatory function of sweet taste-sensing receptor in adipogenic differentiation of 3T3-L1 cells Masubuchi Y.. et al. | PloS One Department of Cell Biology, Institute for Molecular and Cellular Regeneration, **Gunma University**

[1] These solutions should be portioned in 5mL aliquots, stored at -20C and never frozen/thawed. Although antimycotics are not necessary, CET highly recommends their usage for long-term cell culture. Antibiotics and antimycotics should not be used as an alternative to proper aseptic techniques.

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