Version Date: 01/09/2024

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 is designed to support the differentiation of adipose or bone marrow-derived mesenchymal stem cells into adipose or fat-producing cells. Media is compatible with available animal-origin serum, supplemented separately according to the customer preference.

Adipocyte differentiation is a complex process accompanied by coordinated changes in cell morphology, hormone sensitivity and gene expression that have been studied primarily in murine preadipocyte cell lines rather than in human preadipocytes.

Media is compatible with available animal-origin serum, supplemented separately according to customer preferences. We strongly recommend the use of fully defined Fetal Bovine Serum (FBS). Base media also requires the addition of an antibiotic/antimycotic (recommended) solution to be considered a complete media, which is ready for use

Media is shipped with gel packs.

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	
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.

CELLULAR ENGINEERING TECHNOLOGIES, INC.
2500 Crosspark Road, Suite E110 Coralville, IA 52241
T: (319) 665-3000 F: (319) 665-3003
Email: support@cet.bio

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.

CELLULAR ENGINEERING TECHNOLOGIES, INC.
2500 Crosspark Road, Suite E110 Coralville, IA 52241
T: (319) 665-3000 F: (319) 665-3003
Email: support@cet.bio