

MesenCult™-ACF

Defined, Animal Component-Free
Human MSC Culture

The First Complete, Animal Component-Free MSC Isolation & Culture System

MesenCult™-ACF is the first complete, defined, serum-free and animal component-free (ACF) culture system that supports efficient isolation, clonogenic growth and long-term expansion (>8 passages) of mesenchymal stem cells (MSCs) from primary human bone marrow (BM) and adipose tissue (AT).

Each **MesenCult™-ACF Culture Kit** includes MesenCult™-ACF Medium and MesenCult™-ACF Attachment Substrate. When used in combination with MesenCult™-ACF Dissociation Kit and MesenCult™-ACF Freezing Medium, a complete and integrated workflow to isolate, culture and cryopreserve MSCs completely free of serum and other materials derived from human or animal sources is now possible. This optimized, high-performance ACF culture system helps to minimize variability and, thus, increase reproducibility between experiments.

MSCs cultured in MesenCult™-ACF expand faster compared to serum-containing or competitor media, even after long-term passaging (Figure 1), regardless of whether the MSCs are first derived using serum-free or serum-based medium (data not shown). Furthermore, MSCs cultured in MesenCult™-ACF maintain self-renewal and multi-lineage differentiation potential after multiple passages (Figure 2) and show a significant reduction in hematopoietic cell contamination at early passages compared to traditional serum-based medium. The culture-expanded cell population expresses CD90, CD73, CD105 and CD146, but lacks expression of CD45, CD34, CD11b and HLA-DR (Figure 3).



CATALOG # 05449 MesenCult™-ACF Culture Kit

Advantages of MesenCult™-ACF

- Defined, animal component-free culture system
- Optimized for isolation of MSCs directly from primary human tissue
- No adaptation required when transitioning MSCs from serum-containing medium
- Significant reduction in hematopoietic cell contamination at early passages
- Supports efficient clonogenic growth and long-term expansion of human MSCs

Achieve Higher Cell Yield & Faster Expansion

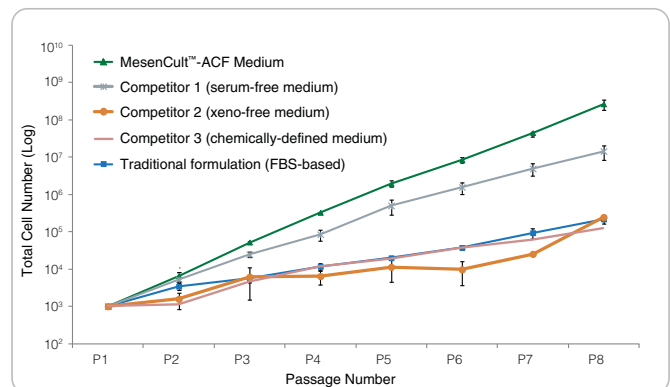


Figure 1. Human BM-Derived MSCs Cultured in MesenCult™-ACF Expand Faster than Cells Cultured in Serum (FBS)-Based or Competitor Media

(n = 3 except for Competitor 3 where n = 2; Mean ± SEM).



Scientists Helping Scientists™

WWW.STEMCELL.COM

DOCUMENT #DX20281

VERSION 1.0.1

FEB 2015

TOLL FREE PHONE 1 800 667 0322 • PHONE +1 604 877 0713 • INFO@STEMCELL.COM • TECHSUPPORT@STEMCELL.COM

FOR GLOBAL CONTACT DETAILS VISIT OUR WEBSITE

FOR RESEARCH USE ONLY. NOT INTENDED FOR HUMAN OR ANIMAL DIAGNOSTIC OR THERAPEUTIC USES.
STEMCELL TECHNOLOGIES INC.'S QUALITY MANAGEMENT SYSTEM IS CERTIFIED TO ISO 13485 MEDICAL DEVICE STANDARDS.

MesenCult™-ACF

Defined, Animal Component-Free Human MSC Culture

Maintain Multi-Lineage Differentiation Potential

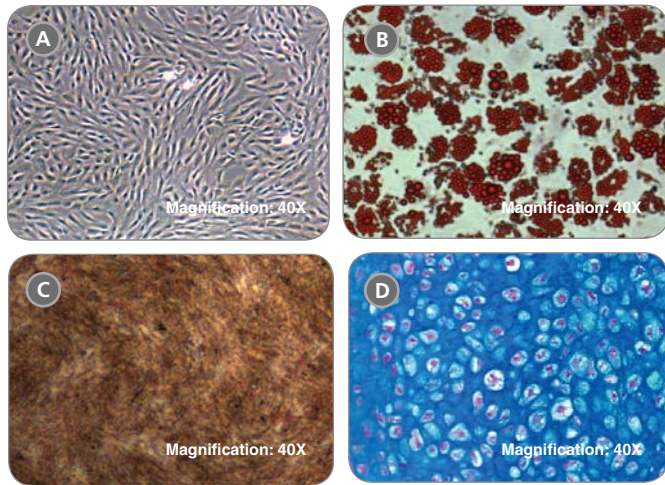


Figure 2. Human BM-Derived MSCs Cultured in MesenCult™-ACF Display Multi-Lineage Differentiation Potential

Human BM-derived MSCs cultured in MesenCult™-ACF Medium for 3 passages (A) differentiate into adipocytes (B; Oil Red O staining), osteogenic cells (C; Von Kossa/ALP staining) and chondrocytes (D; Alcian Blue + Nuclear Fast Red staining).

Ordering Information

PRODUCT	QUANTITY	CATALOG #
MesenCult™-ACF Culture Kit	1 kit*	05449
MesenCult™-ACF Medium	500 mL	05440
MesenCult™-ACF Dissociation Kit	1 kit	05426
MesenCult™-ACF Freezing Medium	50 mL	05490

* Each kit comprises MesenCult™-ACF Medium (Catalog #05440) and MesenCult™-ACF Attachment Substrate. MesenCult™-ACF Medium must be supplemented with L-Glutamine (e.g. Catalog #07100), and must be used in conjunction with MesenCult™-ACF Attachment Substrate and MesenCult™-ACF Dissociation Kit (Catalog #05426) for optimal cell attachment.

Maintain Cell Surface Phenotype

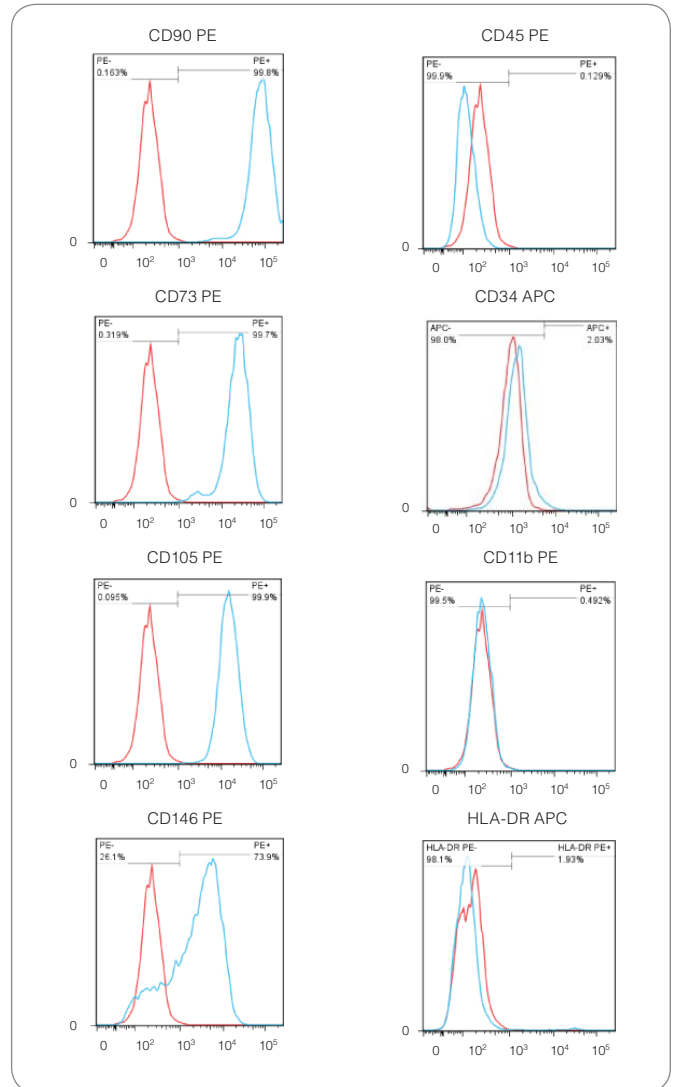


Figure 3. Human BM-Derived MSCs Cultured in MesenCult™-ACF Display Characteristic Expression of MSC Surface Markers

Human BM-derived MSCs cultured in MesenCult™-ACF were stained at Passage 4 with antibodies to mesenchymal and pericyte markers (CD90, CD73, CD105, CD146) and hematopoietic markers (CD45, CD34, CD11b, HLA-DR).

STEMCELL Technologies' products are manufactured under a Quality Management System (QMS) certified to ISO 13485. Unless otherwise indicated, products are provided for research use only, not for human or animal therapeutic or diagnostic use.

Your regulatory authority will provide guidance on the requirements for ancillary materials for cell therapy applications. Depending on the requirements, STEMCELL may be able to assist you in meeting your regulatory and quality requirements.

STEMCELL Technologies stands behind the quality of our products. We welcome onsite audits of our manufacturing facilities to ensure that your quality requirements are met. If you have any questions or would like to discuss the potential use of a product for your application please contact us.