MesenCult™-hPL Medium

For the Derivation and Expansion of Human Mesenchymal Stem and Progenitor Cells

Introduction

MesenCult™-hPL Medium (Catalog #05439) is optimized for the derivation and expansion of human mesenchymal stem and progenitor cells (MSCs), and for the detection and enumeration of MSC colonies using the colony-forming unit - fibroblast (CFU-F) assay. Human platelet lysate (hPL) is an alternative supplement to fetal bovine serum (FBS). MesenCult™-hPL Medium is prepared by combining MesenCult™-hPL Basal Medium with the MesenCult™-hPL 10X Supplement. The 10X Supplement contains fibrinogen-depleted hPL that has been specifically screened for optimal MSC derivation and expansion. When basal medium and supplement are combined, complete MesenCult™-hPL Medium does not require the addition of growth factors, lipids, attachment substrate or anticoagulants such as heparin.

MSCs cultured in MesenCult™-hPL Medium show greater long-term expansion than MSCs cultured in FBS-containing medium (Figure 1). Culture-expanded MSCs in MesenCult™-hPL Medium can be further differentiated into adipocytes, chondrocytes and osteoblasts (Figure 2) and are characterized by strong expression of cell surface markers CD73, CD90 and CD105, and lack expression of CD45 (Figure 3).

Achieve Faster Expansion

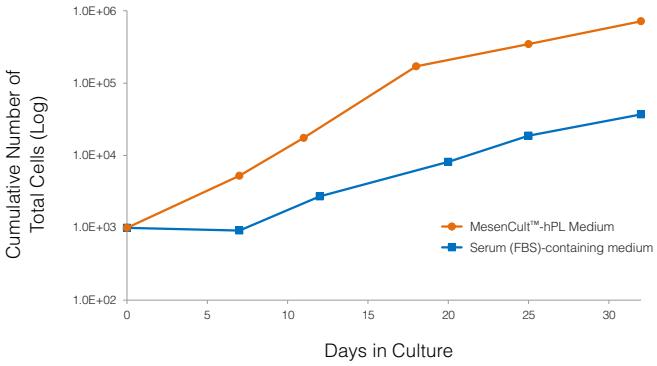

Figure 1. Bone marrow (BM)-Derived MSCs Cultured in MesenCult™-hPL Medium Expand Faster than MSCs Cultured in FBS-containing Medium.

Advantages

COMPLETE SOLUTION. Optimized to support long-term expansion of MSCs without the addition of growth factors, lipids, attachment substrate or anticoagulants.

SUPERIOR PERFORMANCE. Specifically screened hPL supplement supports faster long-term expansion of MSCs than FBS-containing media.

FUNCTIONAL. Culture-expanded MSCs are capable of differentiation into adipocytes, chondrocytes and osteoblasts.

RELIABLE. Rigourous screening and quality control of raw materials minimize lot-to-lot variability and provide consistent culture results.

Maintain Multi-Lineage Differentiation Potential

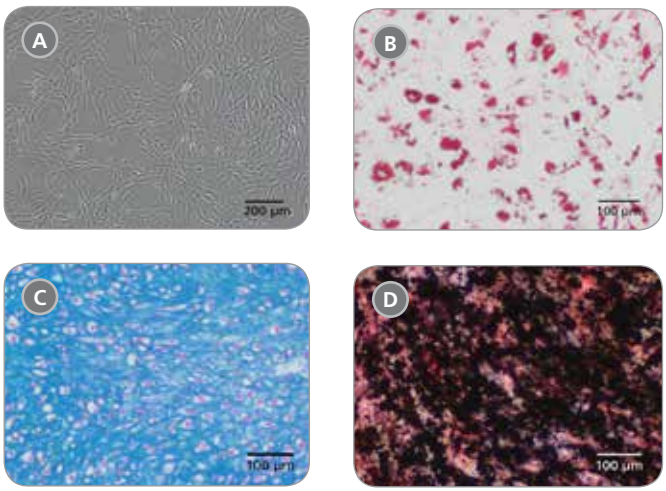

Figure 2. Human BM-Derived MSCs Cultured in MesenCult™-hPL Medium Display Multi-Lineage Differentiation Potential

(A) Human BM-derived MSCs cultured in MesenCult™-hPL Medium differentiate to (B) adipocytes (Oil Red O staining); (C) chondrocytes (Alcian Blue staining); and (D) osteoblasts (alkaline phosphatase and von Kossa staining).

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Maintain Mesenchymal Surface Markers

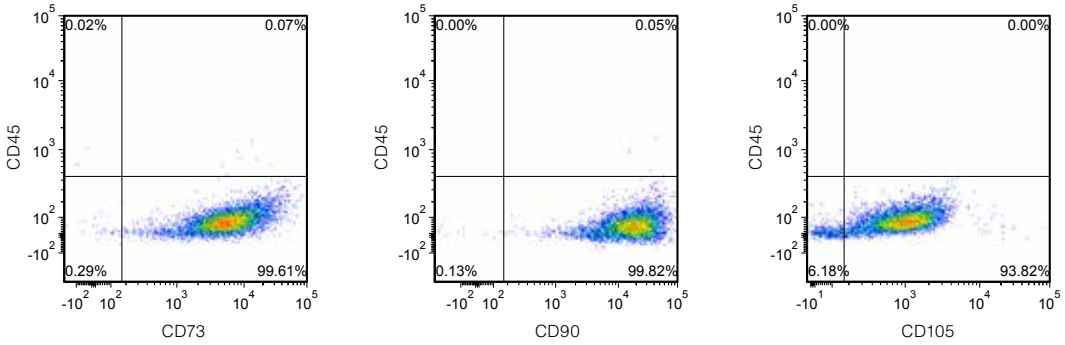

Figure 3. Flow Cytometric Analysis Culture-Expanded MSCs in MesenCult™-hPL Medium

BM-derived MSCs were cultured and expanded in MesenCult™-hPL Medium. MSCs were stained for the mesenchymal surface markers, CD73, CD90 and CD105, and the hematopoietic marker, CD45. MSCs express high levels of CD73, CD90 and CD105 while lacking expression of CD45.

Product Information

PRODUCT	SIZE	CATALOG #	COMPONENTS
MesenCult™-hPL Medium	500 mL	05439	• MesenCult™-hPL Basal Medium • MesenCult™-hPL 10X Supplement

MSCs cultured in MesenCult™-hPL Medium are compatible with MesenCult™ differentiation media including MesenCult™ Adipogenic Differentiation Medium (Catalog #05412), MesenCult™-ACF Chondrogenic Differentiation Medium (Catalog #05455) and MesenCult™ Osteogenic Differentiation Medium (coming soon).

Accessory Products Compatible with MSCs Cultured in MesenCult™-hPL Medium

PRODUCT	SIZE	CATALOG #	COMPONENTS
MesenCult™ Adipogenic Differentiation Medium	250 mL	05412	• MesenCult™ MSC Basal Medium (Human) • MesenCult™ 10X Adipogenic Differentiation Supplement (Human) • MesenCult™ 500X Adipogenic Differentiation Supplement (Human)
MesenCult™-ACF Chondrogenic Differentiation Medium	100 mL	05455	• MesenCult™-ACF Chondrogenic Differentiation Basal Medium • MesenCult™-ACF 20X Chondrogenic Differentiation Supplement
Coming Soon **MesenCult™ Osteogenic Differentiation Medium**	250 mL	05465	• MesenCult™ Osteogenic Differentiation Basal Medium • MesenCult™ 5X Osteogenic Differentiation Supplement