StemSpan™ SFEM II

Serum-free medium for culture and expansion of hematopoietic cells

Catalog #	09605	100 mL
	09655	500 mL

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Product Description

StemSpan™ Serum-Free Expansion Medium II (SFEM II) is a modified version of StemSpan™ SFEM. It has been developed for the in vitro culture and expansion of human hematopoietic cells. This medium contains pre-tested bovine serum albumin, insulin, transferrin, and other supplements in Iscove's MDM. Recombinant hematopoietic growth factors, required for the optimal growth and expansion of hematopoietic cells, have not been added to StemSpan™ SFEM II. This allows users the flexibility to prepare medium that meets their requirements.

Using appropriate cytokines (e.g. StemSpan™ CC100, StemSpan™ CC110, or StemSpan™ CD34+ Expansion Supplement; see Notes and Tips), StemSpan™ SFEM II can be used for the expansion of total nucleated cells and CD34+ cells from cord blood, bone marrow, or other cell sources. StemSpan™ SFEM II can also be used to expand and differentiate lineage-committed progenitor cells to generate erythroblasts, granulocytes, monocytes, or megakaryocytes when used with StemSpan™ Erythroid Expansion Supplement (Catalog #02692), StemSpan™ Myeloid Expansion Supplement (Catalog #02693), StemSpan™ Myeloid Expansion Supplement II (Catalog #02694), or StemSpan™ Megakaryocyte Expansion Supplement (Catalog #02696), respectively.

Properties

Storage: Store at -20°C.

Shelf Life: Stable for 18 months from date of manufacture (MFG) on label.

Contains:
- Iscove's MDM
- Bovine serum albumin
- Recombinant human insulin
- Human transferrin (iron-saturated)
- 2-Mercaptoethanol
- Supplements

This product contains material derived from human plasma. Donors have been tested and found negative for hepatitis B surface antigen (HBsAg) and HIV-1 antibodies and/or HIV-1 antigen. However, this product should be considered potentially infectious and treated in accordance with universal handling precautions.

Handling / Directions For Use

1. Thaw StemSpan™ SFEM II at room temperature (15 - 25°C) or overnight at 2 - 8°C. Mix well.
   NOTE: If not used immediately, aliquot into tubes and store at -20°C. Once aliquots are thawed, do not re-freeze.
2. Add desired cytokines, growth factors, and other components to StemSpan™ SFEM II and mix well.
   NOTE: Added components and cells in sterile cell culture medium (e.g. Iscove's MDM or DMEM) should not exceed ~10% of total volume.
3. Add cells, mix well, and set up cultures as desired.

NOTE: Addition of lipids is not recommended.

ASSESSMENT OF HEMATOPOIETIC CELLS

Assessment of CD34+ cells before and after culture may be performed by flow cytometry using the following fluorochrome-conjugated antibody clones:

- Anti-Human CD34 Antibody, Clone 581 (Catalog #60013) or Clone 563 (Catalog #60119) or Clone 8G12 (Catalog #60121)
- Anti-Human CD45 Antibody, Clone HI30 (Catalog #60018) or Clone 2D1 (Catalog #60123)

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Notes and Tips

Selection of an optimal growth factor combination is dependent upon the source and type of cells and the experimental objectives of the researcher. StemSpan™ expansion supplements, described below, are suitable for use with StemSpan™ SFEM II.

- StemSpan™ CD34+ Expansion Supplement (10X) (Catalog #02691)
  - Culture and expansion of large numbers of human CD34+ progenitor cells
  - Contains: rh SCF, rh TPO, rh IL-3, rh IL-6, rh Flt3 ligand, other additives

- StemSpan™ CC100 (Catalog #02690)
  - Culture and expansion of human hematopoietic cells
  - Contains: rh Flt3 ligand, rh SCF, rh IL-3, rh IL-6

- StemSpan™ CC110 (Catalog #02697)
  - Culture and expansion of human hematopoietic cells
  - Contains: rh Flt3 ligand, rh SCF, rh TPO

- StemSpan™ Erythroid Expansion Supplement (100X) (Catalog #02692)
  - Expansion and lineage-specific differentiation of human CD34+ cells into erythroid progenitor cells
  - Contains: rh SCF, rh IL-3, rh EPO

- StemSpan™ Megakaryocyte Expansion Supplement (100X) (Catalog #02696)
  - Expansion and lineage-specific differentiation of human CD34+ cells into megakaryocyte progenitor cells
  - Contains: rh SCF, rh TPO, rh IL-6, rh IL-9

- StemSpan™ Myeloid Expansion Supplement (100X) (Catalog #02693)
  - Expansion and lineage-specific differentiation of human CD34+ cells into granulocytes
  - Contains: rh SCF, rh TPO, rh G-CSF, rh GM-CSF

- StemSpan™ Myeloid Expansion Supplement II (100X) (Catalog #02694)
  - Expansion and lineage-specific differentiation of human CD34+ cells into monocytes
  - Contains: rh Flt3 ligand, rh SCF, rh TPO, rh M-CSF, rh GM-CSF, other additives

SCF = stem cell factor; EPO = erythropoietin; TPO = thrombopoietin; rh = recombinant human; IL = interleukin; Flt = fms-like tyrosine kinase

RELATED PRODUCTS

For related products, including specialized culture and storage media, supplements, antibodies, cytokines, and small molecules, visit www.stemcell.com/HSPCworkflow or contact us at techsupport@stemcell.com. For available fresh and cryopreserved peripheral blood, cord blood, and bone marrow products in your region, visit www.stemcell.com/primarycells.