StemSpan™ SFEM

Serum-free medium for culture and expansion of hematopoietic cells

Catalog #	09600	100 mL
	09650	500 mL

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Product Description

StemSpan™ Serum-Free Expansion Medium (SFEM) has been developed and tested for the in vitro culture and expansion of human hematopoietic cells. This medium contains pre-tested bovine serum albumin, insulin and transferrin, and 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. This allows users the flexibility to prepare medium that meets their requirements.

In addition to the culture and expansion of human hematopoietic cells, StemSpan™ SFEM has been used for the culture and expansion of hematopoietic stem and progenitor cells from other species, including mouse, non-human primate, and dog (Miller & Eaves; Zhang & Lodish; Sandrin et al.; Bauer et al.). StemSpan™ SFEM has also been used for the generation, culture, and assay of human and mouse dendritic cells, and for the culture of various other hematopoietic and non-hematopoietic cell types. In most applications, addition of specific hematopoietic growth factors, cytokines, and/or other compounds is required for optimal growth.

Properties

Storage: Store at -20°C.

Shelf Life: Stable until expiry date (EXP) 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 HIV-1 and -2, hepatitis B, and hepatitis C prior to donation. However, this product should be considered potentially infectious and treated in accordance with universal handling precautions.

Handling / Directions For Use

1. Thaw StemSpan™ SFEM 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 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.

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)

Notes and Tips

STEMCELL Technologies Inc. recommends the use of Human LDL (Catalog #02698) as a culture supplement. It has been pre-screened for the culture, expansion, and colony assay of human hematopoietic and non-hematopoietic cells in serum-free culture media. It promotes the proliferation and survival of human hematopoietic and other progenitor cells in culture, resulting in increased cell output in expansion cultures and increased colony numbers and/or colony size in colony assays.

Selection of an optimal cytokine 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.

- 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 myeloid progenitor cells
  - Contains: rh SCF, rh TPO, rh G-CSF, rh GM-CSF

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.

References

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