

# StemSpan™ H3000

**Xeno-free and serum-free medium for culture and expansion of human hematopoietic cells**

Catalog # 09850      500 mL



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## Product Description

StemSpan™ H3000 has been developed for the in vitro culture and expansion of human hematopoietic cells, when the appropriate growth factors and supplements are added. This allows users the flexibility to prepare medium that meets their requirements. StemSpan™ H3000 contains pre-tested human-derived and recombinant human (rh) proteins.

Using appropriate StemSpan™ Expansion Supplements, StemSpan™ H3000 may be used to expand CD34+ cells isolated from human cord blood, mobilized peripheral blood, or bone marrow samples, or to expand and differentiate lineage-committed progenitor cells to generate populations of erythroid, myeloid, or megakaryocyte progenitor cells.

## Properties

**Storage:** Store at -20°C.

**Shelf Life:** Stable until expiry date (EXP) on label.

**Contains:** This product contains only human-derived or recombinant human proteins.

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™ H3000 at room temperature (15 - 25°C) or overnight at 2 - 8°C. Mix well.  
NOTE: If not used immediately, aliquot and store at -20°C. After thawing aliquots, do not re-freeze.
2. Add desired cytokines, growth factors, and other components to StemSpan™ H3000. 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 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™ H3000.

- 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](http://www.stemcell.com/HSPCworkflow) or contact us at [techsupport@stemcell.com](mailto:techsupport@stemcell.com). For available fresh and cryopreserved peripheral blood, cord blood, and bone marrow products in your region, visit [www.stemcell.com/primarycells](http://www.stemcell.com/primarycells).

## References

- Giebel B et al. (2004) Segregation of lipid raft markers including CD133 in polarized human hematopoietic stem and progenitor cells. *Blood* 104(8): 2332–8.
- Irish JM et al. (2007) Flt3 Y591 duplication and Bcl-2 overexpression are detected in acute myeloid leukemia cells with high levels of phosphorylated wild-type p53. *Blood* 109(6): 2589–96.
- Miharada K et al. (2006) Efficient enucleation of erythroblasts differentiated in vitro from hematopoietic stem and progenitor cells. *Nat Biotechnol* 24(10): 1255–6.

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