



Human Hematopoietic Stem Cell Expansion Protein Bundle

Catalog Number: PB-500-03

Protein Bundle Includes:

Human SCF (Catalog 100-04)	10 ug vial
Human TPO (CHO-derived) (Catalog 100-216)	2 x 5 ug vials
Human FLT-3 Ligand (Catalog 100-21)	10 ug vial

Bundle Description:

Hematopoietic stem cells are self renewing pluripotent cells often characterized by the expression of CD34. Studies have shown that decreased expression of CD34 tends to correlate with the decreased self renewal properties and pluripotent potential. Culturing CD34+ cells in a cytokine mixture of TPO, SCF, and FLT-3 Ligand for short time periods (2-7 days) allows CD34+ cells to proliferate without decreasing CD34 expression, thus retaining their stem cell properties. The combination of these cytokines allows for the ex vivo expansion of the most immature hematopoietic stem cells in cord blood or bone marrow preparations, but can be supplemented with other cytokines to promote specific lineages. For example, GM-CSF (Catalog 100-08) and/or G-CSF (Catalog 100-72) can be added to promote monocytes and granulocytes while EPO can be added to promote erythroid cells. IL-6 and/or IL-3 can be used in conjunction with SCF and FLT-3 Ligand to promote expansion of more mature hematopoietic CD34+ progenitor cells (Catalog PB-500-07).

Notes: Dependent on user formulation, there is approximately enough TPO, SCF, and FLT-3 Ligand to make 200 mL of expansion media. Specific concentrations of each chemokine are determined by the end user based on their application and culture conditions.

References:

- Broxmeyer, H. et al. (2012) Blood Cells, Molecules, and Diseases 48:25-29.
- Chou, S. et al. (2010) Cell Stem Cell 7:427-428.
- Zhang, C. et al. (2008) Curr Opin Hematol. 15: 307-311.

THIS PRODUCT IS FOR RESEARCH USES ONLY AND IS NOT FOR USE IN HUMANS!