stemexpress
advancing science
1743 Creekside Drive, Suite 200
Folsom, CA 95630
530.626.7000
email: info@stemexpress.com
www.stemexpress.com

# Fresh Product

## Cord Blood CD34+ Stem Cells, Pooled Donors

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|---|---|---|
| Catalog# | CBP3400.5F | 0.5 million cells |
| | CBP3401F | 1.0 million cells |
| | CBP3402F | 2.0 million cells |
| | CBP3402.5F | 2.5 million cells |

## Product Description

Human Umbilical Cord Blood CD34+ Stem/Progenitor Cells are positively selected from umbilical cord blood mononuclear cells.

Whole umbilical cord blood is needle aspirated from the umbilical cord vein using a cord blood collection bag. This material is derived from a human source and may contain 35 mL of citrate phosphate dextrose (CPD). Mononuclear cells are then enriched from the cord blood using a density gradient centrifugation protocol. CD34+ hematopoietic stem cells (HSCs) are then selected using immunomagnetic anti-CD34 microbeads from the mononuclear cell pool, leaving a highly pure population of CD34+ stem and progenitor cells.

Fresh products have a high viability without the detrimental effects of freezing, thawing, and exposure to cryoprotectants.

Cells were obtained using Institutional Review Board (IRB) approved consent forms and protocols.

## Sample Collection and Processing

All samples are collected at nearby partner hospitals or clinics. Umbilical cord blood bags contain CPD. Samples are then quickly processed in our on-site laboratory to achieve maximum viability and quality.

Infectious disease testing for HIV, HBV, and HCV is performed on a sample of cord blood by a CLIA-certified lab.

## Format

Isolated stem/progenitor cells are shipped in StemSpan™. We normally ship isolated cells on wet ice, but we can also use gel packs at the customer's request. These techniques minimize cellular damage during transportation while helping to ensure the viability you need.

Specific containers and media can also be prepared as requested by the customer.

## Storage

Fresh products should be used or processed immediately upon receipt. The warranty only covers items whose specifications are tested at the time they are received.

## Cell Counting Instructions

Important: This cell viability/counting step is required to ensure the quantity of cells provided. Be sure to count the cells before washing. Be aware that cell loss is expected and may be up to 30% during wash steps. Recovery rates vary depending on technique.

Materials

- Cleaned hemocytometer
- Trypan Blue

Protocol

1. If removing the cell suspension from the vial in which it was shipped, be sure to rinse the vial to collect all of the cells.
2. Gently mix the cell suspension and measure the volume.
3. Make a 1-in-2 dilution with 20 µL each of well-mixed cell suspension and Trypan Blue.
4. Load one side of the hemocytometer, being careful not to over- or under-fill the chamber.
5. Count viable (clear, round, bright) and non-viable (blue, irregular shape, dull) cells in the four corner squares. Adjust your dilution if there are more than 100 cells/square.
6. Determine the number of total viable cells in the original sample. One square is equal to 100 nL.

   Viability = live cells/all cells
   Cell Concentration = Mean cells/square × Dilution Factor × 104
   Total Cell Count = Cell Concentration × Starting Volume
   Total Viable Cell Count = Total Cell Count × Viability

## Warning

This product contains human tissue or other biological material and MUST be handled at Biosafety Level 2 or higher. All biological products should be treated as potentially infectious or contaminated material, even if infectious disease screening reports are negative. Follow universal precautions and wear appropriate personal protective equipment.

## Product Warranty

For our product warranty, please review our Terms and Conditions at stemexpress.com/terms-and-conditions/.

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