



SUSTAINING QUALITY OF LIFE  
THROUGH RESEARCH™

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## Fresh Product

### Umbilical Cord Blood Mononuclear Cells

Catalog #	CB0001F	150 million cells
	CB0002F	200 million cells
	CB0003F	300 million cells

### Product Description

Umbilical Cord Blood Mononuclear Cells (CB-MNC) are isolated from whole blood using density gradient centrifugation.

Fresh products have high viability without the detrimental effects of freezing, thawing, and exposure to cryoprotectants. We normally ship blood, plasma, and bone marrow items at ambient temperature and fresh 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.

### 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.

### Format

Isolated cells are normally shipped in PBS with 5% FBS and 0.5% BSA, while stem/progenitor cells are shipped in StemSpan. 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  $\mu$ L 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  $\times$  Dilution Factor  $\times$  104

Total Cell Count = Cell Concentration  $\times$  Starting Volume

Total Viable Cell Count = Total Cell Count  $\times$  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

StemExpress warrants its fresh products if tested immediately upon receipt and if counted exactly as in the above instructions. The cells are guaranteed to meet specifications for viability, purity, and cell count, also provided the above instructions are followed exactly. StemExpress is not able to guarantee cell performance for any in vitro or in vivo culture system, proliferation assay, functional assay, or implantation.

THE PURITY, VIABILITY  
& QUALITY YOU  
NEED™