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Fresh Product

Cord Blood CD4+CD45RA+ Naive Helper T Cells

Catalog#	CB445RA005F	5 million cells
	CB445RA010F	10 million cells
	CB445RA015F	15 million cells
	CB445RA020F	20 million cells
	CB445RA025F	25 million cells

Product Description

Human Umbilical Cord Blood CD4+CD45RA+ Naïve Helper T Cells are negatively selected from cord blood mononuclear cells in a multi-step process.

First, whole umbilical cord blood is needle aspirated from the umbilical cord vein using a cord blood collection bag containing 35 mL of the anticoagulant citrate phosphate double dextrose (CP2D). Mononuclear cells are then enriched from cord blood using a density gradient centrifugation protocol Next, cells expressing CD8, CD14, CD16, CD19, CD20, CD36, CD45RO, CD56, CD66b, CD123, TCRγ/δ and CD235a are depleted from the mononuclear cell population using immunomagnetic particles leaving purified, untouched CD4+CD45RA+ naïve helper T 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

Freshly isolated cells are stored in PBS with 5% FBS and 0.5% BSA. 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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