

# **CORD BLOOD PRODUCT SPECIFICATIONS FOR BIOMEDICAL RESEARCH**

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## Fresh Cord Blood

1. Whole cord blood is collected into a Single Cord Blood collection bag with minimum of 21 mL citrate-phosphate-dextrose (CPD) anticoagulant in the base pack.
2. Whole cord blood unit (CBU) volume is  $\geq 40\text{mL}$  (including a maximum of 29 mL of CPD anticoagulant).
3. Whole CBU total nucleated cell (TNC) count will vary between whole CBU but will be  $>0.3 \times 10^9$  per unit. A required minimum TNC count can be specified by a researcher.
  - i. Specifying a minimum TNC count may result in a delay in receiving the product.
  - ii. TNC counts for most products available for research will be  $<1.3 \times 10^9$  per unit.
4. Whole CBU collection date and time will be provided. Sex assigned at birth of the baby may be provided, if required by the researcher.
5. Whole CBU will be collected, stored and shipped at room temperature ( $15 - 25^\circ\text{C}$ ) or stored and shipped at  $4^\circ\text{C}$  with reasonable efforts made for delivery within 48 hours of collection.
6. Whole CBU are not tested for transmissible diseases or for sterility.
7. Fresh whole cord blood products are available at a cost of \$100 CAD (plus shipping fees) per unit for projects conducted within an academic/not-for-profit/government research institution and at a cost of \$300 CAD (plus shipping fees) per unit for projects conducted within a private industry research institution. These fees may change at the discretion of the program.

# **CANADIAN BLOOD SERVICES' CORD BLOOD BANK INFORMATION FOR CORD BLOOD DONATION FOR BIOMEDICAL RESEARCH**

## Frozen Cord Blood

1. Processed CBU is prepared from whole cord blood collected in a Single Cord Blood collection bag with minimum 21 mL CPD anticoagulant in the base pack. The whole cord blood is buffy coat enriched by centrifugation. Cord blood units processed using the Sepax methodology (Cytiva) were processed using Hydroxyl Ethyl Starch (6% HES) prior to controlled rate freezing. Cord blood units processed by AXP®II (ThermoGenesis Corp.) were processed without Hydroxyl Ethyl Starch (HES). The processed CBU is cryopreserved in 10% DMSO and 1% Dextran 40 within 48 hours of collection.
2. Processed CBU final volume is 25 mL.
3. Processed CBU is stored in liquid nitrogen (-196°C) and may be shipped on dry ice (-78°C) or in a dry shipper (-150°C) with reasonable efforts made for delivery within 48 hours of pre-approved shipping date.
4. The post-processing total nucleated cell (TNC) count will vary between CBU but will typically be  $\geq 5.0 \times 10^8$  per unit at the time of cryopreservation.
5. The post-processing CD34+ cell content will vary between CBU but will typically be  $\geq 1.25 \times 10^6$  per unit at the time of cryopreservation.
6. The viability of the cells within the processed CBU at the time of cryopreservation will vary between processed CBU but will typically be  $\geq 85\%$ , as determined by flow cytometric analysis.
7. Processed CBU are not tested for transmissible diseases or for sterility.
8. Sex assigned at birth of the baby may be provided, if required by the researcher.
9. Frozen processed cord blood units are available at a cost of \$500 CAD (plus shipping fees) per unit for projects conducted within an academic/not-for-profit/government research institution and at a cost of \$3000 CAD (plus shipping fees) per unit for projects conducted within a private industry research institution. These fees may change at the discretion of the program.