



by CooperSurgical®

## Discover the difference

The #1 OB/GYN recommended newborn stem cell preservation company<sup>1</sup>

### Helping families today and tomorrow

**Cord Blood Registry® (CBR®) sees every life as a chance for great potential.** Since 1992, expectant parents and their healthcare providers have entrusted us with preserving more than one million newborn stem cell samples, making us the world's largest and most experienced private newborn stem cell preservation company.<sup>2</sup>

### Providing the highest quality care and support

**700+**

Over 700 cord blood samples have been released to families intended for use in transplant and clinical trials or appropriately regulated experimental protocols for regenerative medicine.<sup>2</sup>

**80k**

80k square foot state of the art facility with two 9k gallon liquid nitrogen tanks.



FDA registered, AABB accredited, and ISO certified.

### A reliable partner for your patients

CBR is recognized as the leader in the fast-changing newborn stem cell preservation industry.<sup>2</sup> Our privately owned storage facility is located in Tucson, AZ - a region with a historically low risk of natural disasters.<sup>3</sup> CBR's strong corporate structure and financial stability come from being a part of CooperSurgical®, a global leader in fertility and women's health. Dedicated Clinical Specialists and genetic counselors are ready to discuss how newborn stem cells may be applicable to interested families.



### Exclusive CBR resources

#### Newborn Possibilities Program®

For some expectant families, a medical diagnosis can present unique challenges. Through the CBR® Newborn Possibilities Program, we offer newborn stem cell preservation and 5 years of storage at no cost to families who qualify for this program.

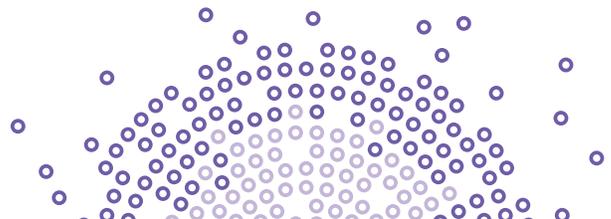
#### Education

CBR offers monthly webinars to help educate expectant parents on newborn stem cell preservation.

#### CBR Blog

We share stories of families who have used their newborn stem cells for treatments, exciting news in the world of newborn stem cells, and helpful tips for pregnancy and parenting.

For more information, visit [cordblood.com](http://cordblood.com) or call **1.888.CORD BLOOD (1.888.267.3256)**



# Discover the difference

Industry leaders in newborn stem cell preservation



## Cord blood processing

### AXP® II processing technology

CBR uses the AutoXpress® II Platform (AXP® II) processing technology to precisely separate out the portion of the cord blood collection that is rich in stem cells. AXP II is FDA-cleared and automated to assist with cGMP (current good manufacturing practice) compliance.<sup>1</sup>

#### ≥ 95% recovery rate for CD34+ cells

- Consistently higher CD34+ recovery rate than other cord blood processing methods<sup>9,10,11</sup>
- CD34+ is a more specific marker for hematopoietic stem cells (HSCs) – the therapeutically relevant cells for stem cell transplants

#### Automated, functionally closed, sterile system for volume reduction of blood components<sup>1</sup>

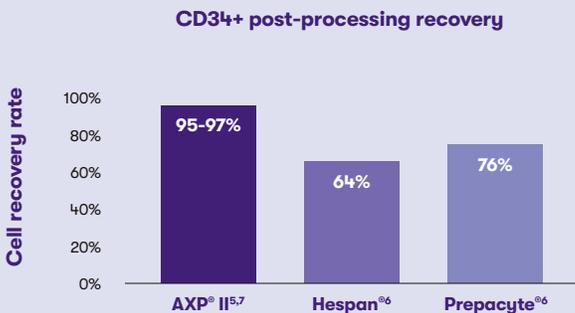
- Ensures consistent sterility & quality
- Minimizes exposure to environmental pathogens which may be a concern with manual processing

#### Quick and accurate data tracking with XpressTRAK® software

- Exact measurements at every step of the process minimizes human error
- Fully electronic documentation and quality controls provide complete and accurate records

### Every cell matters

AXP II processing has the highest reported average CD34+ cell recovery rates when compared with other available cord blood processing methods.<sup>5,6,7</sup> Having more stem cells for treatment has been shown to improve medical outcomes.<sup>8</sup>



## Cord tissue processing

### Cord Tissue Complete® Processing

#### PROTECT

We evaluate the metabolic health and quality of cord tissue with the ActivCord test, then store it whole to help ensure the most options the science has to offer in the future.

#### PREPARE

We're prepared for innovative possibilities. CBR has developed a method to isolate and expand MSCs from cord tissue stored whole, resulting in a pure MSC product for potential clinical use.<sup>10</sup>

#### PERFORM

We've done the research. All data to-date indicates that the MSCs isolated from cryopreserved cord tissue have the special properties that should be needed for future clinical use.<sup>9,10,11</sup>

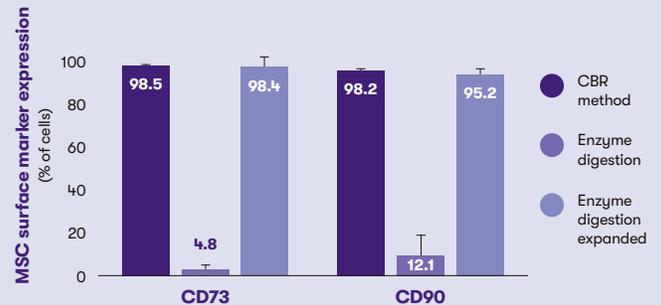
### ActivCord® test

As leaders in the industry, CBR works hard to continuously innovate and provide the best quality possible to our clients. In doing so, our R&D scientists developed the ActivCord® test as a way to measure the metabolic health of whole cord tissue before it's cryopreserved. Cord tissue samples are tested with ActivCord and compared to CBR's quality standard. The ActivCord test provides an estimate of the metabolic activity of the cells in the sample, which may help inform decisions regarding continued storage.

### MSC isolation

CBR stores cord tissue as a composite material and, at the time of potential use (post-thaw), a validated process is used to isolate MSCs via a natural, cell-driven process to achieve a pure MSC product.<sup>9</sup> We can measure the purity of an MSC product with CD73 and CD90 counts; these are cell surface markers that are expressed on MSCs. We've done the research to understand how MSCs obtained from our method will behave as compared to an alternate method, enzyme digestion.<sup>10,11</sup> While the science is still in the early stages for potential future uses, we know that MSCs must be expanded (multiplied) to achieve a clinically relevant dose.<sup>12</sup>

### Expression of MSC markers from thawed material<sup>9,10,11</sup>



References: 1. Blind Survey, Egg Strategy, 10/19, funded by CBR. 2. Internal data on file. 3. <http://www.usa.com/tucson-az-natural-disasters-extremes.htm> 4. "AXP® II system. ThermoGenesis Holdings, Inc. <https://thermogenesis.com/axp-ii-device-process/>. Published June 14, 2021. Accessed November 17, 2022. 5. Rubinstein P. Cord blood banking for clinical transplantation. Bone Marrow Transplantation. 2009;44:635-642. 6. Basford C, Forraz N, Habibollah S, Hanger K, McGuckin CP. Umbilical cord blood processing using Prepacyte-CB increases haematopoietic progenitor cell availability over conventional Hetastarch separation. Cell Prolif. 2009;42(6):751-761. doi:10.1111/j.1365-2184.2009.00646.x Elmariah, et al. CD34+ Cell Dose Influences Survival after Allogeneic Peripheral Blood Stem Cell Transplantation with Post-Transplant Cyclophosphamide. Blood. 2019;134(1):3329. 7. Marzan AJ, Wilson C, Wheeler-Beunger J, Brown KS, Shamanki JM. Impact of Cord Blood Anticoagulant on Cell Recovery Following Volume and Red Blood Cell Reduction. Data presented at AABB Meeting, 2020 October, virtual. 8. Scaradavou A, Stevens C, Dobrila L, et al. Cord Blood (CB) Unit Mononuclear Cell (MNC) Dose: Effect on Transplantation Outcome and Relevance to Processing Method and CBU Selection. Blood. 2008;112:1969. 9. Skiles ML, Brown KS, Tatz W, Swingle K, Brown HL. Quantitative analysis of composite umbilical cord tissue health using a standardized explant approach and an assay of metabolic activity. Cytotherapy. 2018; doi: <https://doi.org/10.1016/j.jcyt.2018.01.001> 10. Skiles ML, Marzan AJ, Brown KS, Shamanki JM. Comparative analysis of umbilical cord tissue mesenchymal stromal cells obtained from digestion and explant outgrowth. Abstracts from the annual meeting of the American Society for Gene and Cell Therapy, 2019. 11. Skiles ML, Marzan AJ, Brown KS, Shamanki JM. Comparison of mesenchymal stromal cells derived from human umbilical cord tissue by explant and digestion. Abstracts from the annual meeting of the International Society for Stem Cell Research, 2019. 12. Hassan MNFB, Yazid MD, Yunus MHM, et al. Large-Scale Expansion of Human Mesenchymal Stem Cells. Stem Cells Int. 2020;2020:9529465. Published 2020 Jul 15. doi:10.1155/2020/9529465.

The use of cord blood is determined by the treating physician and is influenced by many factors, including the patient's medical condition, the characteristics of the sample, and whether the cord blood should come from the patient or an appropriately matched donor. Cord blood has established uses in transplant medicine; however, its use in regenerative medicine is still being researched. There is no guarantee that potential medical applications being studied in the laboratory or clinical trials will become available.

Cord tissue use is still in early research stages, and there is no guarantee that treatments using cord tissue will be available in the future. Cord tissue is stored whole. Additional processing prior to use will be required to extract and prepare any of the multiple cell types from cryopreserved cord tissue. Cbr Systems, Inc.'s activities for New York State residents are limited to collection of umbilical cord tissue and long-term storage of umbilical cord-derived stem cells. Cbr Systems, Inc.'s possession of a New York State license for such collection and long-term storage does not indicate approval or endorsement of possible future uses or future suitability of these cells.

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