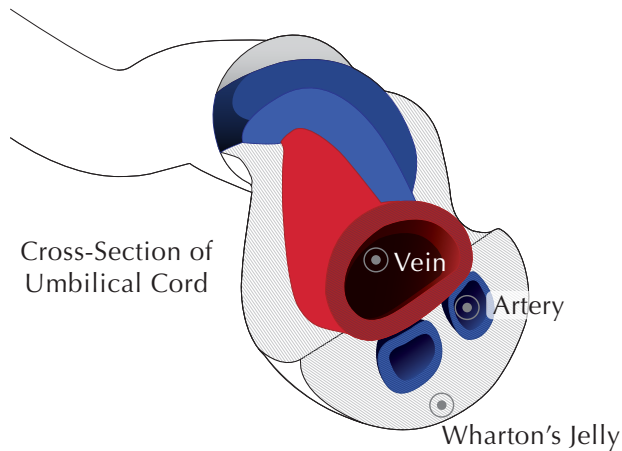




**CordMSCs®** | Umbilical Cord Derived  
Mesenchymal Stem Cells



# UMBILICAL CORD DERIVED MSCs



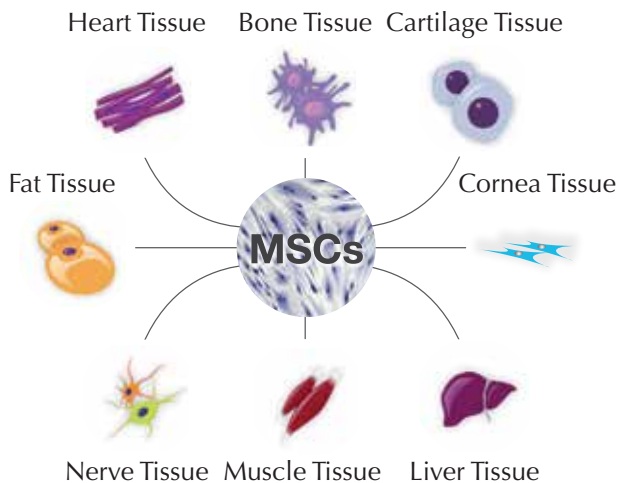
CordMSCs® are **Mesenchymal Stem Cells (MSCs)** derived from the Wharton's Jelly of the umbilical cord. It is the youngest and most primitive source of MSCs that can be obtained from a human body.

In the past, umbilical cord is usually discarded as medical waste after delivery. Today, stem cells have shown great promise in regenerative medicine.

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*Wharton's Jelly is a soft connective tissue that is found in the umbilical cord. It protects the blood vessel within the umbilical cord from compression and reduces stress to the baby.*

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MSCs are multipotent stem cells that have the ability to differentiate into a wide range of cells and tissues such as bone, heart, nerve, muscle, liver, cartilage and etc.

# AMAZING POTENTIAL

MSCs are being widely studied in research and clinical trials globally. Till date, more than 74,349\* articles are published in PubMed with MSCs as the main subject. 831\* clinical trials are ongoing to demonstrate its medical potential.<sup>1</sup>

\*Accessed on 30<sup>th</sup> July 2021 via PubMed

*PubMed comprises over 32 million citations for biomedical literature from MEDLINE, life science journals, and online books.*

MSCs have the ability to modulate the immune system of patients. It also promotes cell growth and differentiates into various specialised cells. The potential of MSCs has been expanded into a wider scope of diseases such as <sup>2,3</sup>:

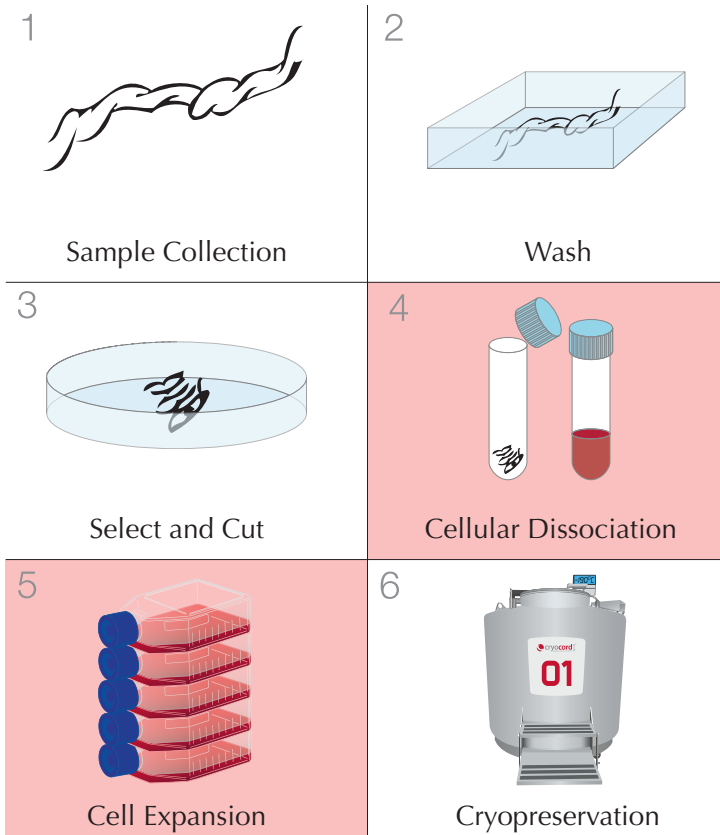
- Heart Disease<sup>4</sup>
- Diabetes<sup>2,3</sup>
- Alzheimer's Disease<sup>2,3</sup>
- Liver Cirrhosis<sup>2,3</sup>
- Retinal Disease<sup>5</sup>
- Spinal Cord Injury<sup>2,3</sup>
- Chronic Wounds<sup>2,3</sup>
- Graft Versus Host Disease<sup>2,3</sup>
- Rheumatoid Arthritis<sup>2,3</sup>
- Cardiomyopathy<sup>2,3</sup>



## References

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# ADVANCED PROCESSING



1. Upon delivery, the umbilical cord is collected and sent to the laboratory for processing.
2. The umbilical cord is cleaned.
3. The umbilical cord is then selected and cut.
4. The umbilical cord tissue is subjected to cellular dissociation to isolate the MSCs.
5. Isolated MSCs are then expanded to the required number of cells.

## TREATMENT READY

Only through **cellular dissociation**, the properties, viability and cell count of MSCs can be identified.<sup>1</sup> Treatment generally require higher cell number than those isolated from the cord tissue. Therefore, **expansion** of cells before storage is important to ensure enough cells are available when needed, especially during emergency.

6. After a series of quality check, MSCs are then finally stored in the vapour phase liquid nitrogen storage tank under temperature  $-190^{\circ}\text{C}$ .

# WORLD CLASS LABORATORY



## cGMP Certified Laboratory

CryoCord laboratory is certified with Current Good Manufacturing Practice (cGMP) in accordance to Pharmaceutical Inspection Co-operation Scheme (PIC/S) standards, awarded by the National Pharmaceutical Regulatory Agency (NPRA), a division under the Health Ministry.



## Class 100 Cleanroom

The laboratory houses 10 Class 100 cleanrooms with High Efficiency Particulate Air (HEPA) filters, certified by National Environmental Balancing Bureau (NEBB) of United States of America, to prevent cross-contamination of bacterial samples and contamination from dust and other airborne particles.

## SCADA System

Implemented Supervisory Control and Data Acquisition (SCADA) system to monitor heating, ventilation and air conditioning (HVAC) of the entire laboratory, to reduce human error and increase efficiency.

# 1800 88 3300

## 24 Hours Hotline



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