

## Cryopreserved Product

### Bone Marrow Mesenchymal Stem Cells

Catalog#	BMMSC001C	1.0 million cells
	BMMSC002C	2.0 million cells

## Product Description

Human Bone Marrow Mesenchymal Stem Cells are derived from cultured bone marrow mononuclear cells.

Whole bone marrow is collected from the posterior iliac crest into a syringe containing the anticoagulant heparin. Mononuclear cells are enriched from the bone marrow suspension by a density gradient centrifugation protocol and subsequently cultured in medium and supplements that promote mesenchymal stem cell (MSC) propagation. Cells undergo a single passage at 80% confluence and are harvested after passage at 80% confluence. After culture, adherent cells are then checked for the expression of specific markers. Cultured bone marrow mesenchymal/stromal stem cells have a fibroblast-like phenotype and express CD73, CD90 and CD105, in addition to being CD14, CD34, CD45 and HLA-DR negative.

Cells were obtained using Institutional Review Board (IRB) approved consent forms and protocols.

## Cryopreservation

Cryopreserved products allow for prolonged storage before use. Cell products contain 10% DMSO to minimize cell death during freezing. All cryopreserved products are stored in containers designed and tested for ultra-low temperatures at long time intervals. We normally ship cryopreserved items on dry ice, but can also use a cryoshipper at the customer's request.

## Sample Collection and Processing

All samples are collected at our Stem Cell Collection Center. Samples are then quickly processed at our on-site laboratory to achieve maximum viability and quality. Cryopreserved cells are frozen at -1°C/minute in a -80°C freezer, and then transferred to liquid nitrogen.

Infectious disease testing for HIV, HBV, and HCV is performed on a sample of donor blood. Only samples with negative results within 90 days of collection are shipped unless approved by the customer. All testing is performed by a CLIA-certified lab.

## Format

Stem/progenitor cells are frozen in StemSpan™ + 10% DMSO. We can also use freezing media as specified by the customer.

## Storage

Cryopreserved cells should be maintained at -135°C or colder (in liquid nitrogen). The cells are warranted for twelve months from the date of receipt if stored at -135°C or colder. Storage of cells at -80°C for less than one month should maintain cell viability but is not covered by the warranty.

## Thawing Instructions for Cell Products

Refer to our "How to thaw StemExpress primary cells for optimal viability?" under our Frequently Asked Questions at [stemexpress.com/faqs/](http://stemexpress.com/faqs/) to access our online Thawing Protocol.

## 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/](http://stemexpress.com/terms-and-conditions/).

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