

# Cellpia

DECEMBER 2019



## COVER STORY

# 2019

Stem Cell  
Related Articles  
and Issues

Finishing 2019,  
**TRANSITION TO**  
**2020**

## FOCUS

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## News & Issues COSMETIC

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Lotte Duty Free - Manna Spa  
in Arai Resort

Cellpia Ampoule  
Cell Stem Sunblock  
Blanc Mask / Booster  
Rescue Mask

*Good bye 2019*

### CEO Message 2019

**Shin Hyun Soon** Interview

Miracell CEO

#### **How was 2019 and what is the most memorable moment?**

2019 was a precious year with precious people. The late President Kim Woo Choong said: "The world is big and there are many things to do" so for our, Miracell is has been a year where "the world is big and there are many things to do" but there was not enough time.

I have tried throughout 2019 to help more people, Miracell to be a company that helps people, and if I look back, I hope I have done it.



Significant memorable moments include the visits of doctors from Japan, China, Malaysia and Cambodia, who showed interest in **Cellpia Global Platform**, stem cell treatments and procedures. Besides this, a group of buyers from Romania and Iran made up of local business teams and medical staff, discussed stem cell-related technology business partnerships and product exports. In particular, the contract to supply cosmetic to Arai Resort in Japan in the 2nd half of 2019 is also a very important step for our business which put another brick on our global business foundation for the growth of **Cellpia Cosmetics**.

I think 2019 has been a year where Miracell, a stem cell specialized company, gained more experience in exporting technology, products, and services globally.

#### **What are the main goals of Miracell Corporation / Business in 2020?**

In order to create a better future, Miracell has to reflect on its 30 years of experience on the market, that is why we think it's time to put ourselves on the front line, to rearrange our position, become stronger, meet the targets and set up our vision for the future.

2020 is the year of prosperity, hope, and opportunity, where Miracell, a stem cell specialized company will develop technologies and treatment techniques to better convey the happiness of healing to patients and to deliver satisfaction to our doctors.

### CEO Message 2019

**Shin Hyun Soon** Interview

Miracell **CEO**

We will give our best, and not only me but all Miracell's employees are determined to move forward in 2020 with passion and sacrifice as a team, whole as a family.

We are committed for 2020 to be the year in which we will become one of the best, a mid-size company but fierce worldwide.

### **What are your personal goals and desires for 2020?**

As Miracell aims to achieve all the above as a company, I personally want to focus more on my health, so that I can continue to work tirelessly throughout the year.

Getting up at 5 am, I plan to exercise 3 times per week in the whole of 2020 so I can be able to meet my customers and to achieve our target of exporting to 50 countries.

As the CEO of the company, Miracell Co., Ltd. wants to become the company that pays its employees the best and provides the best welfare to them.

We can do it and we will do it! Please watch us closely!



## 2020 Stem Cell Medical Market Outlook

### Regenerative Medicine Market Overview

Stem cells are capable of proliferation and differentiation, which increase their importance in this field. The global regenerative medicine market is estimated to reach \$39,325 million by 2023, registering a CAGR (Compound Annual Growth Rate) of 32.2% until 2023.

There are over 700 regenerative medicine companies globally at present.

The total regenerative medicine market has more than 500 products commercialized.

The Regenerative Medicine Market encompasses several key technology submarkets such as:

- Cell therapy including stem cells
- Tissue Engineering
- Biomaterials
- BioBanking

Reconstructive surgeries for bones and joints is the mainstay of the regenerative medicine market. Geographically speaking, due to the dominance of the bone and joint reconstruction market, the US has the biggest space, being closely followed by Europe. However, due to recent positive legislation in Japan and Europe, the stem cell arena will grow more substantially in these regions over the next five years.

By 2023, Europe may surpass the US market for stem cell applications, and this will become more likely if the Trump Administration restricts legislation and funding.



### Market Applications & Opportunities for Regenerative Therapies



Regenerative medicine, including cellular and gene therapies will have a significant impact on the expenditure of payers once reimbursement schemes are optimized.

To that end, a number of conditions that

regenerative medicine tackles is synonymous with an aging population such as: cardiovascular diseases & stroke, diabetes, inflammatory and immune diseases, wound healing and soft tissue regeneration, neurodegenerative diseases: e.g., ALS, Alzheimer's and Parkinson's, spinal cord injury, musculoskeletal disorders, ocular disease etc.

### Stem Cell Market Analysis & Forecast to 2020-2023

Today the stem cell and regenerative medicine industries are interlinked and over the last number of years have grown substantially.

Regenerative medicine replaces or regenerates cells, tissues or organs and in order to achieve this, uses products from the pharmaceutical, biologics, medical device and cell therapy spaces.

Therefore, cell therapy and stem cells come under the umbrella market of regenerative medicine.

Cell therapy is a platform by which regenerative medicine can achieve its aim and concentrates on using cells as therapeutics to treat disease.

### Tissue Engineering Market Analysis and Forecast to 2020-2023



Tissue-engineering was the forerunner of the present regenerative medicine market. The area of biomaterials was developed to use cells and biological material and incorporate them into scaffolds and functional tissues. Some of the main applications of tissue engineered products include artificial skin and cartilage and so this area dominates the dermatology, bone, and joint submarket.

The biobanking industry is made up of over 500 public and private blood banks globally.

These companies and institutions collect, store and distribute adipose tissue, cord blood, and birth tissues, musculoskeletal tissues, pericardium, skin, bone, vascular tissue, autologous and allogeneic cells and other biological samples.

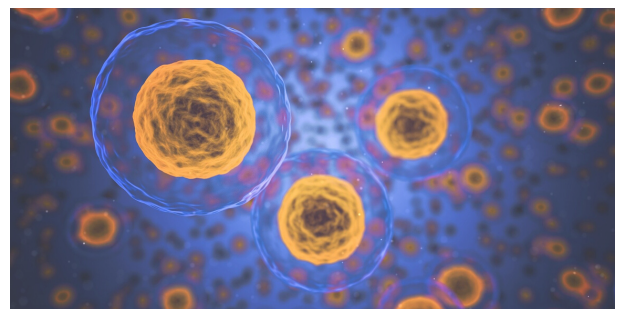
They operate by charging a collection fee and then a storage fee, which is usually operational for 20 years.

## 2019 Stem Cell Highlights

**2019 has been a ground-breaking year for stem cell therapy which has delivered new ways of fighting against injuries and diseases and set up a new path in the medical world for new cures.**



Stem cells can give rise to any tissue found in the body and, as a result, can provide nearly limitless potential for medical applications (regenerative medicine).



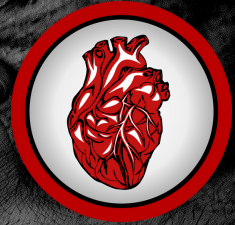
Current studies are researching how stem cells may be used to prevent or cure diseases and injuries such as Parkinson's disease, type 1 diabetes, heart disease, spinal cord injury, muscular dystrophy, Alzheimer's disease, strokes, burns, osteoarthritis, vision and hearing loss.

### **Stem cell therapy helps broken hearts heal in unexpected way**

**Source:** Cincinnati Children's Hospital Medical Center

A study shows stem cell therapy helps hearts recover from a heart attack, although not for the biological reasons originally proposed two decades ago that today are the basis of ongoing clinical trials.

The study reports that injecting living or even dead heart stem cells into the injured hearts of mice triggers an acute inflammatory process, which in turn generates a wound-healing like response to enhance the mechanical properties of the injured area.



### **Tendon stem cells could revolutionize injury recovery**

**Source:** Carnegie Institution for Science

Discovery of tendon stem cells could be a game-changer when it comes to treating tendon injuries, avoiding surgery.

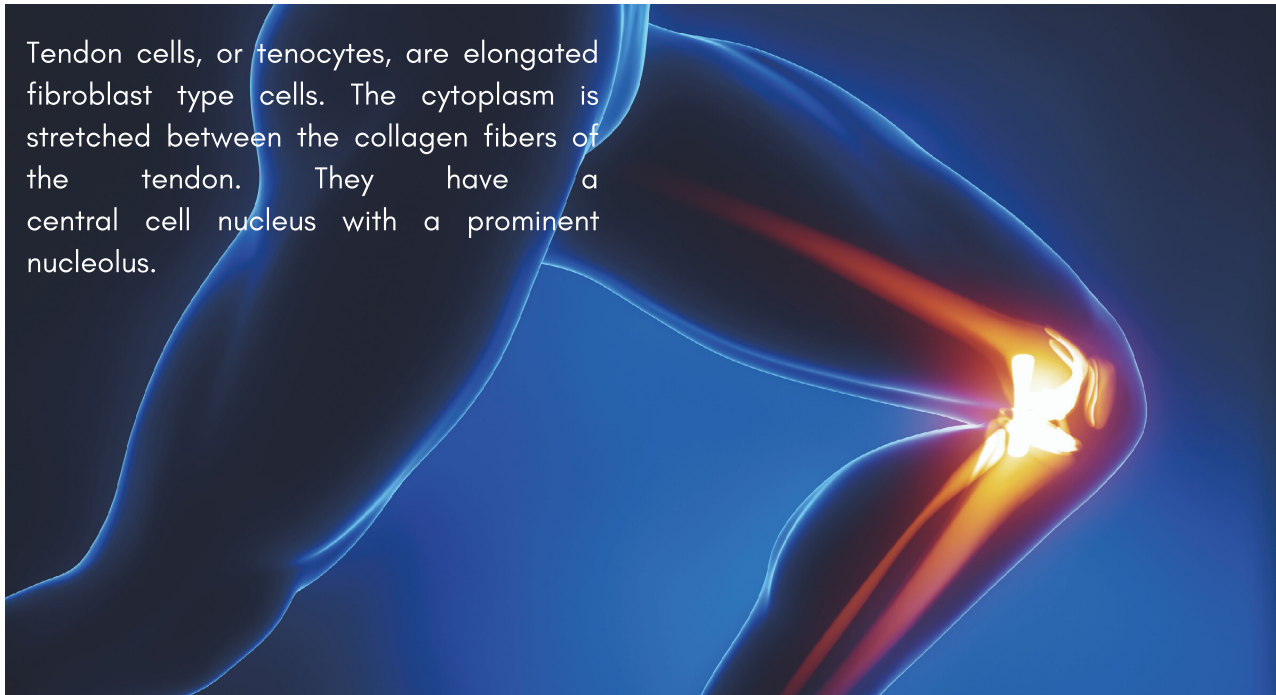
The buildup of scar tissue makes recovery from torn rotator cuffs, jumper's knee, and other tendon injuries a painful, challenging process, often leading to secondary tendon ruptures.

New research reveals the existence of tendon stem cells that could potentially be harnessed to improve tendon healing and even to avoid surgery.

The team's research showed that both fibrous scar tissue cells and tendon cells originate in the same space – the protective cells that surround a tendon.

## 2019 Stem Cell Highlights

These tendon stem cells are part of a competitive system with precursors of fibrous scars, which explains why tendon healing is such a challenge.

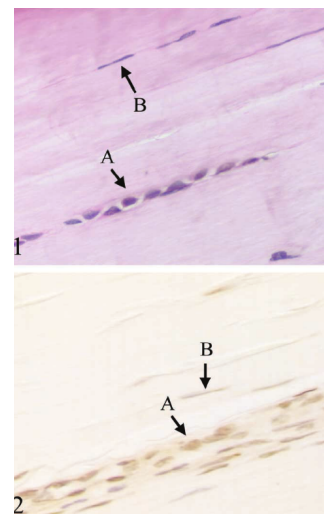


“Tendon stem cells exist, but they must outcompete the scar tissue precursors in order to prevent the formation of difficult, fibrous scars”, Fan explained.

“Finding a therapeutic way to block the scar-forming cells and enhance the tendon stem cells could be a game-changer when it comes to tendon injuries.

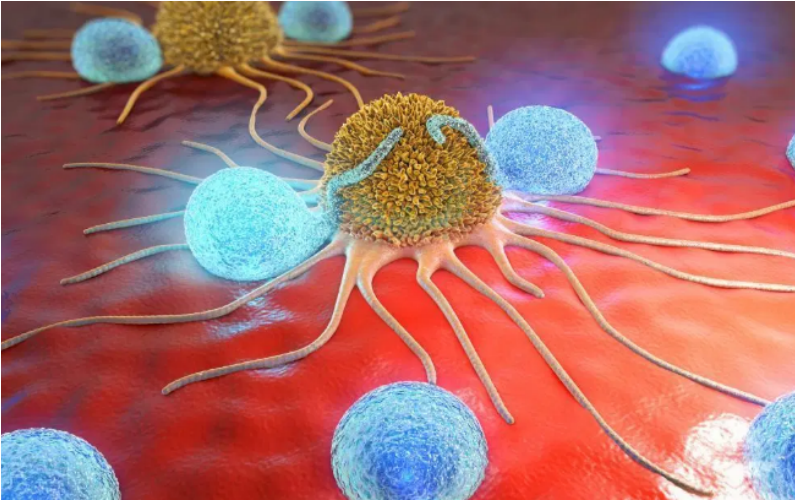
*(This work was supported by the U.S National Institute of Health)*

Round tendon cells (A) and elongated tendon cells (B)  
**Source:** ResearchGate



### A new single delivery therapy could fight many forms of cancer

**Source:** *Medical News Today*



Using mouse models, researchers from the University of California Los Angeles have developed an experimental therapy that boosts the level of a type of immune cell that appears capable of fighting several forms of cancer.

**Image Source:** *Medical News Today*  
Lung cancer cells disguise themselves to evade chemo

Invariant natural killer T (iNKT) cells are a type of powerful immune cell capable of fighting many different “intruders”, including cancer cells.

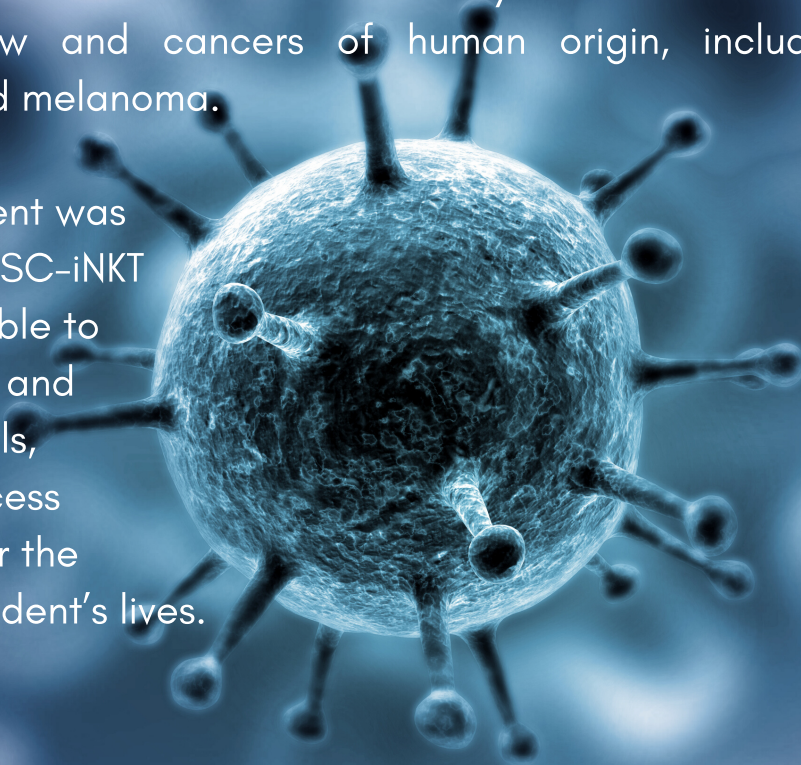
Human bodies hold relatively few of these cells, limiting how much they can contribute to suppressing tumor growth.

However, even though they are very powerful cells, they’re naturally present in small numbers in the human blood that they usually can’t make a therapeutic difference.

To create a form therapy that would stimulate the body to produce more iNKT cells on a permanent basis, the scientists genetically engineered a form of stem cells – hematopoietic stem cells from bone marrow – to develop into iNKT cells. They named the resulting cells “hematopoietic stem cell-engineered invariant natural killer T cells” (HSC-iNKT).

To see if the cells worked as they intended, the researchers tested HSC-iNKT cells in the mice to which they had transferred both human bone marrow and cancers of human origin, including multiple myeloma and melanoma.

The experiment was successful: HSC-iNKT cells were able to differentiate and form iNKT cells, and this process continued for the rest of the rodent's lives.



Even though the advantage of this process is that it's a one time cell therapy that can provide patients with a lifelong supply of iNKT cells, this treatment is, as yet, only at the level of preclinical research and it remains unclear whether this same process would be as effective in humans or not.

### **Rejuvenating brain stem cells may hold key to future MS (multiple sclerosis) treatments**

**Source:** *Medical News Today*

Scientists have found a way to make older brain stem cells in rats more youthful. The discovery could lead to improved treatments for aging-related diseases that degrade the brain and nervous system.

### Stem cells and osteoarthritis

**Source:** *STEM CELLS Journals, Stem Cells Translational Medicine*

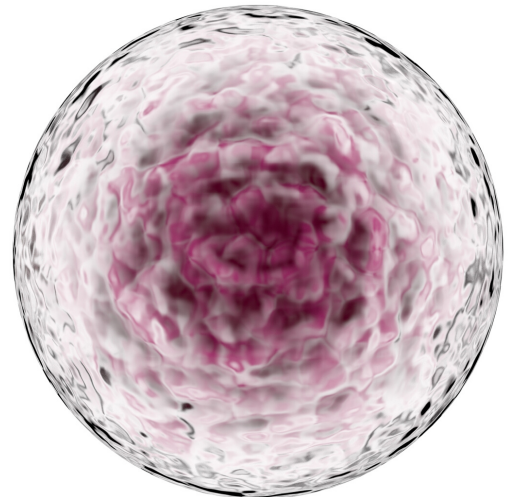
A group of researchers from the Krembil Research Institute, University Health Network in Toronto, Canada looked into the potential use of stem cells to treat KOA.

The scientists wanted to know whether it might be possible to regenerate knee cartilage using MSCs. These cells can develop into a number of different cell types, including muscle, bone, and cartilage.

By the end of a year-long study, the team found that there was a significant reduction in pain and an increase in self-reported quality of life.



Image Source: *Dr. Manuel Gonzales Reyes*



There was a significant reduction in inflammation within the knee joints of the participants, which is important because experts now consider inflammation to be an important driver of osteoarthritis.

## Cellpia Cosmetics enters Japan

Cellpia Cosmetics launched its own range of human stem cell skincare in Manna Spa, Arai Resort, Japan.

It avails oneself as an anti-aging skincare program that can be used for those who enjoy skiing in the expansive are of Mt. Okenashi.

Arai Resort provides not only the best ski experience but also allows you to indulge in a luxurious spa experience at Manna Spa.

### Powered by stem cell science

The Stem Cell Line is powered by Cellpia's latest advancements in stem cell science, inspired by the cell's ability to renew itself.

