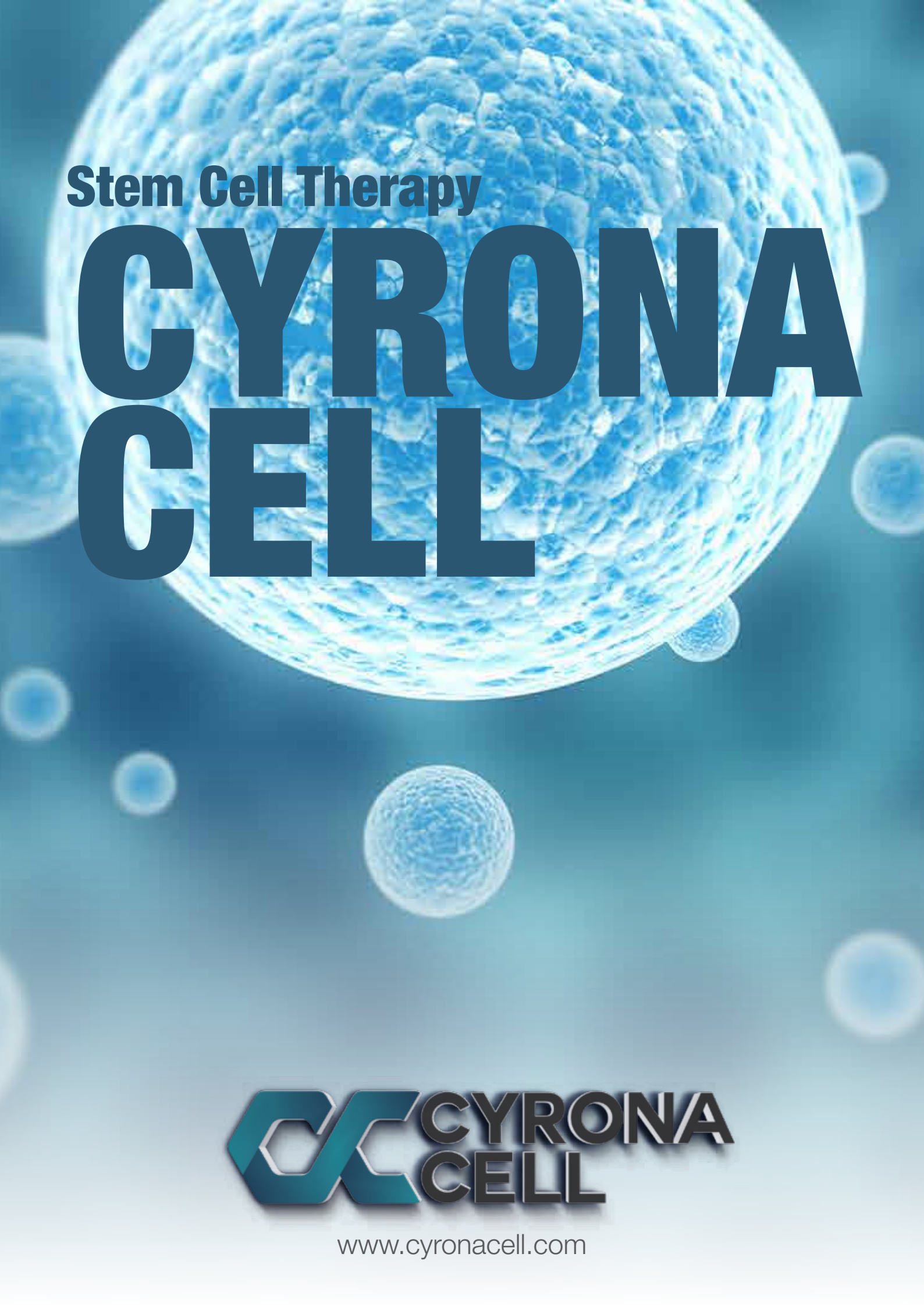

Stem Cell Therapy
CYRONA CELL
CYRONA CELL
www.cyronacell.com

Table of contents

1.

About Us

ADVANCED HEALTHCARE MADE PERSONAL

Named after Sirona, the Celtic goddess of healing associated with healing health springs, we have a strong and continued commitment to honesty, safety, health, service and innovation.

Cyrona Cell provides cutting edge therapies held to the highest international standards through advanced treatment options and excellent customer service. Located in the vibrant metropolis of Kuala Lumpur, we provide comprehensive treatment options for both local and international patients. To date, our therapies have helped enrich the lives of numerous patients from the far reaches of the globe, predominantly Europe and the Middle East, by putting them in touch with accredited and licensed medical professionals throughout Kuala Lumpur. We serve as a one-stop-hub for numerous stem cell-related therapy options and are working on expanding our ever growing network of health care providers and treatment options.

We treat every patient as an individual. Therefore no two therapies are the same. Each patient's prior medical history and health requirements are taken into careful consideration before treatment plans are meticulously drawn up by our health care professionals.

We provide our patients with the best clinical expertise, innovative medical plans as well as warm and superior customer service. Our customer care team is trained to serve you with compassion, attentiveness and respect while upholding high standards of professionalism and integrity.

2.

A Brief History of Stem Cells

It is hard to pinpoint exactly when or by whom what we now call "stem cells" were first discovered. The consensus is that the first scientists to clearly define a stem cell were Ernest McCulloch and James Till.

• *1800s*

With the advent of the microscope, scientists began developing an interest in cell biology. Cell propagation and differentiation were witnessed for the first time and recognised as the building blocks of life.

• *1960s*

Ernest McCulloch and James Till's pioneering work in mice discovers hematopoietic stem cell (hSCs) - blood-forming stem cells.

• *1968*

The first bone marrow (bmMSCs) transplant was performed to successfully treat two siblings with severe combined immunodeficiency.

• *1974*

The first time the idea that stem cells and progenitor cells are present in human cord blood (ucMSCs) was proposed. This was later confirmed in 1978. Umbilical cord blood was proposed as an alternative source of stem cells only in 1983.

• 1981

Martin Evans of Cardiff University identified embryonic stem cells (eSCs) in mice.

• 1988

The first successful cord blood transplant, to regenerate blood and immune system cells, was performed in Paris, France by Dr. Eliane Gluckman. It was used to treat a six-year-old boy suffering from Fanconi's Anemia - a blood disorder.

• 1988

James Thomson of the University of Wisconsin removed cells from spare embryos and grew them in a laboratory. He launched stem cell research into the limelight by establishing the world's first human embryonic stem cell line.

• 2005

Scientists at Kingston University purport to have found another category of stem cells. These were named cord blood embryonic-like stem cells, which originate in umbilical cord blood. It was suggested that these stem cells have the ability to differentiate into more cell types than adult stem cells, opening up greater possibilities for cell-based therapies.

• 2006

Shinya Yamanaka of Kyoto University and John Gurdon of the University of Cambridge revealed a way of making embryonic-like cells from adult cells – avoiding the need to destroy an embryo. His team reprogrammed ordinary adult cells, by inserting four key genes, – forming "induced pluripotent stem cells (IPSCs)". In 2012, they were awarded the Nobel Prize for Physiology or Medicine for their discovery.

• 2007

Harvard Researchers led by Dr. Anthony Atala of the Wake Forest Institute for Regenerative Medicine claimed that a new type of stem cell had been isolated in amniotic fluid. This finding is particularly important because these stem cells could prove to be a viable alternative to the controversial use of embryonic stem cells.

• 2008

Cord tissue storage was introduced as a service in Asian cord blood banks. A Taiwanese company was the first company to do so worldwide. Asia is recognized as the region in which umbilical cord tissue banking first became a commercial service.

• 2014

Charles Vacanti of Harvard Medical School together with Haruko Obokata at the Riken Center for Developmental Biology announced a revolutionary discovery that any cell can potentially be rewound to a pre-embryonic state using a simple, 30-minute technique.

• Present Day

Despite all the interest, embryonic stem cell research has yet to yield any clinical trials. This is due to cancer concerns. However, stem cell research, in general, has progressed dramatically. Adult stem cells, such as those found in bone marrow, adipose tissue and umbilical cord tissue, are used to treat many conditions while countless new research studies are published every year. Researchers still have a long way to go before they completely control the regulation of stem cells. The potential, however, is overwhelmingly positive. With continued support and research, one day, scientists will be able to harness the full power of stem cells to treat diseases that you, or a loved one, are suffering from.

3. Our Stem Cells

QUALITY BEYOND COMPARE

Where Do Our Stem Cells Come From?

Taking into consideration ethical concerns and religious sensitivities, our mesenchymal stem cells are derived solely from umbilical cord tissue. This type of stem cell is referred to as umbilical cord stem cells (ucMSCs) or, more specifically, Wharton's Jelly mesenchymal stem cells (wjMSCs).

Cord tissue is collected after a baby is born and after the umbilical cord is cut. This guarantees that both mother and baby are safe [1].

Wharton's Jelly Mesenchymal Stem Cells

Also referred to simply as umbilical cord mesenchymal stem cells (ucMSCs), a cell is classified a Wharton's Jelly mesenchymal stem cells (wjMSCs) only if it expresses the following surface markers [2,3,4,5,6,7,8]. These are special because:

- CD10 participates in the processing of neuronal signaling molecules and inactivating inflammation [9].

- CD13 is involved in the metabolism of small intestinal and renal cells, macrophages, granulocytes, and synaptic membranes from the central nervous system [10].

- CD29 is involved in tissue repair and immune response [11].

- CD44 is vital in the regulation of hyaluronic metabolism, activation of lymphocytes, and release of cytokines [12].

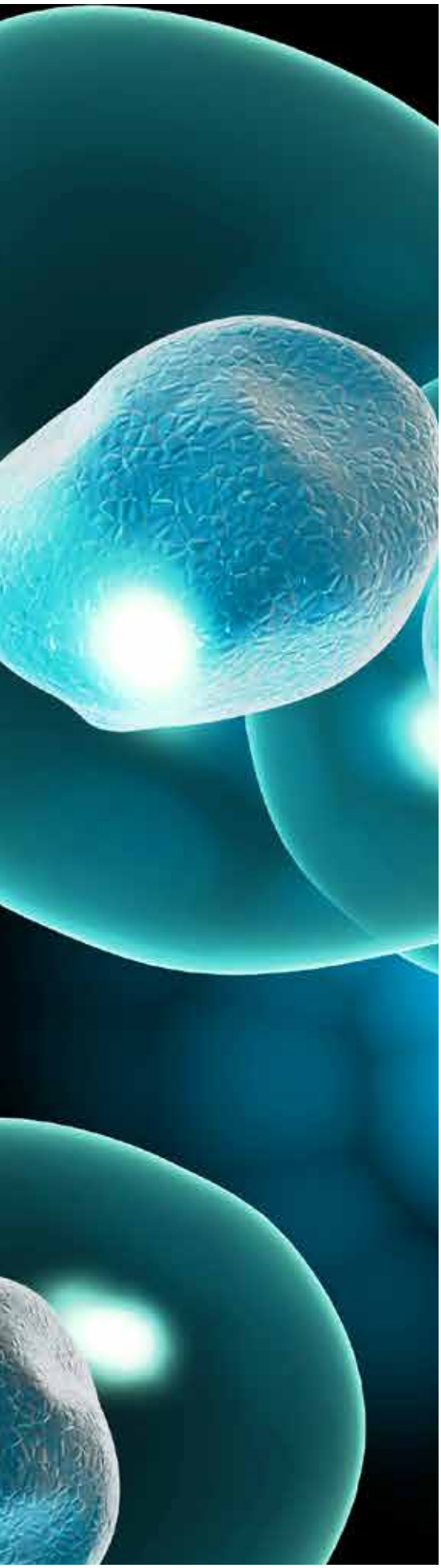
- CD73 is a mediator of anti-inflammation [13].

-CD90 controls the differentiation of MSCs [14].

-CD105 plays an active role in cellular proliferation, differentiation and migration [15].

-CD146 is involved in development, signaling transduction, cell migration, differentiation, formation of new blood vessels (angiogenesis) and immune response [16].

- CD166 is involved in dynamic growth, migration, neural development, branching organ development, formation, development, and differentiation of blood cells and immune response [17].



WJ-MSCs originate from embryonic epiblasts and possess properties intermediate between embryonic stem cells (eSCs) and adult stem cells (bmMSCs, aMSCs) [18]. While the use of eSCs in therapy remains highly controversial and illegal in most countries, wjMSCs have been found to be stable and do not produce cancers due to the expression of the correct combination of surface cell markers and genes [3,4,5,8]. It has been found to express low levels of the following embryonic markers [5,7,8,18,19,20]:

-c-MYC drives cell proliferation, growth differentiation, death and stem cell self-renewal [21].

- NANOG can restore the proliferation and differentiation potential of cells that is lost dueto aging or deterioration [22,23,24,25,26].

- Oct-4, or POU5F1, are vital to sustain the self-renewal capacity of adult somatic stem cells [27,28].

- SOX-2 are capable of both producing cells identical to themselves and differentiated neural cell types [29,30,31].

- SSEA-1 plays a vital role in cell-to-cell recognition processes as well as inflammatory response [32,33].

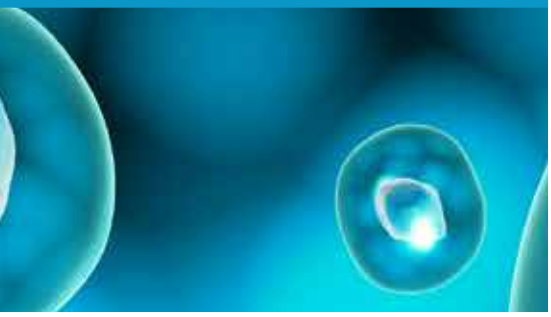
- SSEA-3 is a key player in cell signaling [34,35].

- SSEA-4 (4) enables cellular differentiation [35].

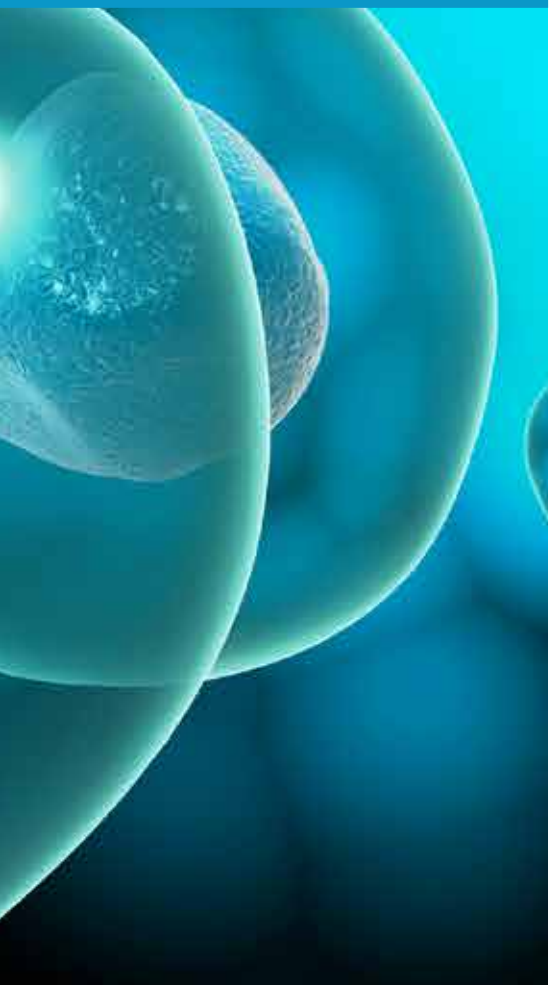
- Tra-1-60 is a cell-surface protein involved in cell differentiation [36].

Our Extraction & Processing Method

In keeping with recommended guidelines for the optimal isolation of mesenchymal stem cells, we extract cord tissue only from full-term pregnancies that have not exceeded 37 weeks gestation. We then implement a specialised cord matrix isolation procedure to ensure higher proliferative capacity, higher rate of differentiation, and higher expression of CD 146 [37]



Why Age Matters?



What determines the quality and capability of stem cells is where they are extracted from as well as the volume and age of the stem cells in question. The younger the stem cells, the more likely they are to survive longer as well as expand into a larger variety of cell types. As stem cells age, they lose the ability to differentiate into other cell types and increase the likelihood of contamination by viruses, diseases, toxins and mutations. Older stem cells also increase the chances of a negative immune response whereby the patient's body rejects the stem cells.

Umbilical cord-derived stem cells are the purest and youngest tissue-specific adult stem cells available. It does not require perfect HLA tissue matching and has fewer incidents of immune rejection. Because of this characteristic, it is ideal for allogeneic (donor) infusions [38, 39]. Its use in therapy poses no danger or discomfort to the mother, newborn or the patient as it is harvested after the baby is born. It also functions the fastest and most effectively when compared to adult stem cells from other sources.

The Quality & Efficacy of Our Stem Cells

Achieving high standards in our work is of paramount importance to us. As such, we produce only premium grade passage 1 and passage 2 stem cells for your treatment. Studies have proven that stem cells harvested at the earliest possible passages are the most stable and effective. Each time the stem cells in a culture dish divide and multiply enough to crowd the dish, they are gently removed and plated in several new culture dishes. This process is called sub-culturing. Each cycle of sub-culturing is referred to as a passage [40].

Mesenchymal stem cells proliferate very well in culture mediums but with each passing passage they deteriorate and lose potency. Surface markers such as HLA-1, CD49e and CD105 play crucial roles in determining how well a batch of stem cells will perform once infused into a patient. Studies have determined that surface marker HLA-1 decreases in consistency when stem cells are sub-cultured past Passage 5. Further studies reported a decrease in surface markers CD49e and CD105 when stem cells were maintained in culture for Passages 4 – 8 [4,41].

A study by The Le Blanc Group demonstrated the striking difference in potency and efficacy between using mesenchymal stem cells from passages 1 and 2 with passages 3 and 4. It concluded these results in patients being treated for Graft Versus Host Disease - a complication of bone marrow or stem cell transplant from another person - who received mesenchymal stem cells from varying passages:

86% success rate when given passage 1 and passage 2
21% success rate when given passages 3 and passage 4
It also found that mesenchymal stem cells from higher passages, passages 3 and above, could potentially trigger a serious immune attack while short-term expanded mesenchymal stem cells (passages 1 and 2) triggered only a weak blood response [42].

At Cyrona, we make it a priority to ensure that our patients are given only the highest quality stem cells as well as the best chances of treatment with minimum to no side ffects.

4.
Our Therapy Packages

Personalised Therapies

All our therapy packages come inclusive of:

INTERNATIONAL PATIENTS

- Premium grade P1 and P2 wjMSCs.
- Treatment by qualified specialist(s).
- Certificate of Analysis (CoA) authenticating wjMSCs and supplementary infusion(s).
Airport transfer.
- Transportation to & from therapy session(s).
- Accommodation.
- Hospital room for therapy.

LOCAL PATIENTS

- Premium grade P1 and P2 wjMSCs.
- Treatment by qualified specialist(s).
- Certificate of Analysis (CoA) authenticating wjMSCs and supplementary infusion(s).
- Transportation to & from therapy session(s).
- Hospital room for therapy.

How Do We Proceed

All our therapies are charged based on the number of wjMSCs and supplementary infusions required for the patient's specific condition. As no two people are alike, our specialists review each patient's medical reports before tailoring a therapy catered to addressing his or her individual needs.

You may chat with one of our Customer Care Representatives or send an e-mail detailing the patient's condition to one of our Patient Liaison Officers. It expedites the process if you can provide us with:

- Imaging results (MRI scan / CT scan / X-Ray).
- Hematology reports (blood test).
- Medical evaluation reports.
- Pictures or videos of the patient.

Upon getting in touch with us, a Patient Liaison Officer evaluates and assigns the case to the specialist best equipped to treat the condition. A therapy, unique only to the patient, is drawn up and a price quoted accordingly.

Should you like to proceed with therapy, our specialists require that all patients have Cancer Marker Screening performed in their country of residence before travelling to us for therapy.

Treatment with Cyrona

While it has been established that wjMSCs are incapable of causing cancers and tumours, we prefer to err on the side of caution. If the patient has had Cancer Marker Screening within the last 3 months, you may e-mail those results to us. In the event that the patient's Cancer Marker Screening results are not satisfactory, our specialists will refuse to proceed with therapy. It is for this reason that we requests that patients have Cancer Marker Screening performed in their country of residence prior to travelling to us.

One week prior to arrival, a deposit payment is required in order to arrange accommodation and transportation.

Full payment is required to be made one-day prior to therapy commencement.

Post-treatment, our specialist will provide the patient with a post-treatment protocol as well as what to expect on his or her journey towards a better, and hopefully, healthier new life.

5. Our Laboratory

The stem cells we use to treat a host of ailments are process and prepared for implantation at our very own state-of-the art facility. We understand a patient's need for peace of mind and as such have gone to great lengths to ensure that we hold ourselves to the highest possible international standards.

As of September 2017, our laboratory facility is accredited with ISO9001 Quality Management System certification as well as deemed Cleanroom Compliant by the National Environmental Balancing Bureau.

6. Value-Added Services

- ***PREMIUM QUALITY STEM CELLS***
- ***ONE-ON-ONE CONSULTATION WITH SPECIALIST***
- ***5-STAR ACCOMMODATION IN THE HEART OF KUALA LUMPUR***

INTERNATIONAL QUALITY & SAFETY STANDARDS

AIRPORT TRANSFER SERVICE

DEDICATED CUSTOMER SERVICE REPRESENTATIVE

TREATMENT PLANS BACKED BY CLINICAL RESEARCH

CHAUFFEUR SERVICE FOR APPOINTMENTS

At Cyrona, you are what matters most to us. Patient comfort and convenience play a huge role in the service we aim to offer. From the moment you get in touch with us through to post-treatment, we strive to provide you with seamless service by assigning a dedicated customer service representative to you. As no two cases are alike, every patient is given a tailor-made treatment plan only after extensive consultation with our specialists.

For international and out-of-town patients, our customer service representatives arrange transportation to and from the airport as well as 5-star accommodation for the entirety of your treatment with us.

7. Application Process

TAILORED FOR YOU

Cyrona prides itself on providing world class treatment and customer care. Upon getting in touch with us, a customer service representative is assigned specifically to you.

As our specialists require accurate and recent data before they can propose treatment, a list of test results will be requested. You will be required to e-mail us a copy of your latest medical records as well as the specifics of your diagnosis.

If you do not have the required test results, you may opt to have the necessary tests done with your primary healthcare physician then send the results along to us or you may request that the necessary tests be done here in Kuala Lumpur.

Once the test results have been received, your customer service representative will then confer with our team of specialists and construct a unique therapy specifically for you. An outline of the proposed therapy, as well as the duration of treatment, will then be sent to you to discuss with your primary physician.

Upon arrival at our facility, and once again post-treatment, your specialist will walk you through your customised treatment plan and provide you with a comprehensive post-treatment outline as well as what to expect on your journey towards a better, healthier new you.

2.

Contact Us

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