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Stem Cell Therapies for Anti-Aging

Information Guide

By Beike Biotechnology

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Beike Biotechnology

Founded in July 2005, Shenzhen Beike Biotechnology Co. Ltd. is an international high-tech enterprise specialized in clinical transformation and technical service of biological treatment technology of strategic emerging industries. The company has more than 400 employees, of which more than 35 percent are technical research and development staff.

Beike's stem cell research and clinical applications were developed starting in the 1990s. Over 60 PhDs from leading Chinese universities contributed to advancing Beike's treatment technologies. Contributing scientists also have experience at leading Western universities, including Stanford, the University of Minnesota, and UCLA.

Beike Biotechnology has established more than 20 adult stem cell processing laboratories, in China. Jiangsu Beike's inspection center was accredited by the China National Accreditation Service for Conformity Assessment (CNAS) in 2011, and it is the first adult stem cell processing laboratory accredited by the CNAS. Beike Biotechnology also successfully completed on-site evaluation for AABB (American Association of Blood Bank) accreditation in September 2011 for its Jiangsu facility and 2016 for its Shenzhen facility.

The first patient to be treated with Beike processed cells was in 2001. Over 200 patients participated in studies and were treated between 2001 to 2005 in order to determine treatment efficacy for a small number of end-stage and otherwise incurable diseases. Beike was incorporated in July 2005 and has since provided partner hospitals with stem cells for the treatment of over 22,500 patients. Beike currently maintains 25 research and cell processing laboratories in accordance with GMP standards and has been awarded over US$6 million in government grants.

Anti-aging

Aging is a natural process in which cell regeneration occurs at a progressively slower pace and biological functions decline in efficacy. This process is largely affected by each individual genetic makeup but also through harmful environmental factors leading to oxidative stress* and inflammation that ultimately damages cells in the body. Mental stress, pollution, unsuitable nutrition, smoking habits, alcohol intake and over-exposure to UV radiations all lead to oxidative stress, making the aging process to occur at a faster pace and supporting the development of symptoms such as loss of memory, insomnia, poor concentration, reduced sex drive, loss of energy, loss of hair, general fatigue, loss of skin elasticity, mood swings and more. Prolonged and severe oxidative stress can also lead more serious conditions such as arthritis, diabetes mellitus, Alzheimer disease, Parkinson syndrome, ALS, cancer and other chronic conditions.
As each individual has their own genetic makeup and genetic predispositions, it becomes evident that harmful external environmental factors and their negative effects on the body are two critical aspects that need to be managed in order to slow down aging and avoid/relieve chronic conditions as much as possible.

Our Approach to Anti-Aging

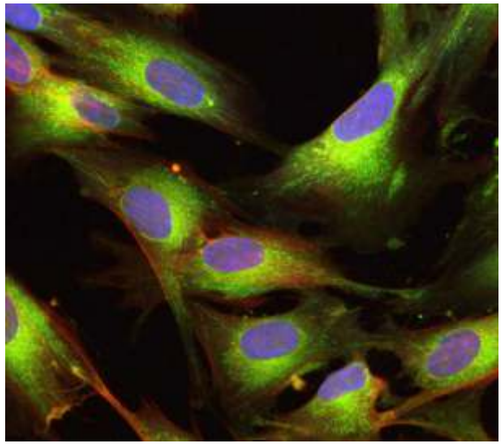
At Beike Biotechnology, we have designed comprehensive anti-aging protocols that involve cellular regeneration through stem cells as well as various therapies that not only aim to support the regenerative action of the stem cells, but also aim to reduce harmful elements in the body, correct nutritional deficiencies and improve metabolism to enhance overall body function. Our anti-aging philosophy considers the body as a whole. We do not only treat the end symptoms but also look at the various body interactions leading to the symptoms. Our functional approach intends to treat the root-cause of the symptoms to rejuvenate the body from inside-outthrough various therapies and life style modification. For more information please go to page 6: “Our Anti-Aging Programs”.

Stem Cells

Stem cells are undifferentiated cells which can perform a variety of regenerative functions in the human body. They can for instance generate or replace a variety of cells through differentiation, regulate the immune system and stimulate other cells in their natural environment to enhance regeneration.
In any individual after birth, cell replacement and regeneration occur in two contexts: the renewal of naturally dying cells (apoptosis) and in response to external injuries (from various causes such as traumatic injury, infection, cancer, infarction, toxins, inflammation, etc.). The stem cells involved in this regeneration process are categorized as Adult Stem Cells (also called Somatic Stem Cells). Beike is only using adult stem cells and our treatment protocols have been used since 2005 for more than 22,500 individuals.
Our adult stem cells come from two distinct sources: umbilical cord tissue and umbilical cord blood. This allows us to provide our patients with Umbilical Cord Blood Stem Cells (UCBSC) and Umbilical Cord Mesenchymal Stem Cells (UCMSC) separately or in combination depending on each individual's specific anti-aging needs.

Umbilical Cord-Derived Mesenchymal Stem Cells (UCMSC)

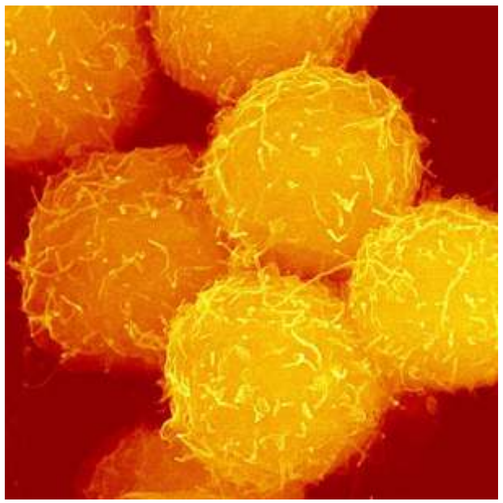
Umbilical cord mesenchymal stem cells resemble the makeup of stem cells present in patient's' own bone marrow. These cells not only secrete important cytokines and growth factors which may play a role in neural protection; but also, are able to differentiate into osteocytes (bone), chondrocytes (cartilage), myocytes (muscle), fibroblasts (tendon/ligament), adipocytes (fat) hepatic stellate cells (liver) connective tissues and more. Last but not the least, UCMSCs can regulate the immune system, reducing inflammation, scarring, and cell death to keep organs and the human body young and healthy and to improve the symptoms of degenerative conditions.



UCMSC

Umbilical Cord Blood Stem Cells (UCBSC)

Our umbilical cord blood stem cells consist of several subsets of stem cells including Hematopoietic Stem Cells (HSC) that can differentiate into all blood cell lineages including immune cells from the innate and adaptive immune system, Endothelial Progenitor Cells (EPC) allowing for the creation of new blood vessels to ensure appropriate oxygen delivery to injured sites and Mesenchymal Stem Cells (MSC) that can derive in all cell lineages described previously. Moreover, this combination of stem cells also has strong nutritional support and signaling capabilities promoting cell renewal and differentiation.
Each pack of umbilical cord stem cells is always provided with a pack of plasma from the cord blood that was originally used to gather the stem cells from. This blood plasma is rich in platelets, electrolytes, various proteins and enzymes, oxygen, glucose hormones and more.



UCBSC

Benefits of Stem Cells

Replacing and rescuing lost/injured tissues, through direct differentiation and paracrine action* to restore physiological function.

Modulating the immune function to reduce the inflammatory response and/or improve the overall immune system action.

Regulating the metabolic activity by enhancing the efficiency of the metabolic system, and thus accelerating the body's operation and excretion of metabolic waste to promote the absorption of nutrients, so that normal physiological function is maintained.

Individuals receiving stem cells for anti-aging may see improvements in overall biological function to maintain the body at a younger state, improve skin elasticity, texture and overall skin appearance, improve metabolism and fat distribution, sleep, appetite, level of energy, male sexual function, menopausal symptoms for women. Stem cells may also strengthen the immune system, fight prostate enlargement, increase muscle strength, decrease pain symptoms, manage better blood lipids, blood sugar and blood pressure.

Overall, stem cells have the ability to restore biological functions that have been deteriorated by the aging process and detrimental environmental factors. Stem cells possess a unique rejuvenating effect that can provide you with a feeling of well-being.

**Phenomenon in which the transplanted stem cells release various factors in proper quantities within the injury site, activating resident cells which will in turn trigger a long-lasting regenerative effect. It is now believed that the paracrine action is one of the major mechanisms by which stem cells deliver their regenerative potential. The paracrine action allows for rescuing injured cells and replacing dead tissues.*

Our Anti-Aging Programs

2 Days Anti-Aging Program

Day 1

- Medical consultation and review of medical records
- Diagnostics and Meta-Scan Evaluation
- Bio-Electro-Magnetic-Energy-Regulation (BEMER)
- Folate IV (vit. B9) and Niacin Flush (vit. B3)
- BG Drink/Colloidal Minerals/electrolytes and Amino acid supplements.
- Stem Cell IV Injection (50-100 million umbilical cord blood mono-nuclear cells including 30-40 ml cord blood plasma)
  OR
  stem cell facial injection (20 million umbilical cord mesenchymal stem cells)

Day 2

- Ozone Therapy (O3)
  OR
  Hyperbaric Oxygen Therapy (HBOT)
- Bio-Electro-Magnetic-Energy-Regulation (BEMER)
- Myer's cocktail
- F/U Consultation

3 Days Anti-Aging Program

Day 1

- Medical consultation and review of medical records
- Diagnostics and Meta Scan Evaluation
- Bio-Electro-Magnetic-Energy-Regulation (BEMER)
- Folate IV (vit. B9) and Niacin Flush (vit. B3)
- BG Drink/Colloidal Minerals/electrolytes and Amino acid supplements
- Stem Cell IV injection (50+ million umbilical cord blood mono-nuclear cells including 30-40 ml cord blood plasma).

Day 2

- Ozone Therapy (O3) or Hyperbaric Oxygen Therapy (HBOT)
- Myer's cocktail
- Stem cell facial/hair treatment (20 to 50 million umbilical cord mesenchymal stem cells)

Day 3

- Bio-Electro-Magnetic-Energy-Regulation (BEMER)
- Individualized Anti-Aging Therapies based on evaluation.
- F/U Consultation

Comprehensive Wellness/Rejuvenation Program (5 days)

Day 1

- Medical consultation and review of medical records
- Diagnostics and Meta Scan Evaluation
- Dietary consultation
- Bio-Electro-Magnetic-Energy-Regulation (BEMER)
- BG Drink/Colloidal Minerals/electrolytes and Amino acid supplements.
- Stem Cell IV injection (50+ million umbilical cord blood mono-nuclear cells including 30-40 ml cord blood plasma).

Day 2

- Folate IV (vit. B9) and Niacin Flush (vit. B3)
- Human Placenta Extract Injection (HPE)
- Hydrogen Therapy
- Gut flora restoration (FMT oral capsules)

Day 3

- Bio-Electro-Magnetic-Energy-Regulation (BEMER)
- Ozone Therapy (O3) or Hyperbaric Oxygen Therapy (HBOT)
- Gut flora restoration (FMT oral capsules)
- Stem Cell facial injection (20 million umbilical cord mesenchymal stem cells)

Day 4

- Stem Cell IV injection (50 million umbilical cord mesenchymal stem cells)
- Myer's cocktail
- Vitamin B12 injection
- Gut flora restoration (FMT oral capsules)

Day 5

- Hormone balancing
- Custom supplement support
- F/U consultation

Therapies Explained

As mentioned previously, most of our programs not only include stem cell administrations but also various therapies designed to support the stem cell regenerative action as well as therapies aiming to reduce harmful elements in the body, correct nutritional deficiencies and improve metabolism. Here is below a description of each therapy available.

Bio-Electro-Magnetic-Energy-Regulation (BEMER)

BEMER is a therapy that increases micro-circulation, supporting the immune system, cardiovascular and digestive functions among others.
During a BEMER session, the patient lies down on the device mat from which electro-magnetic pulses are transmitted to the patient's body. The pulses trigger dilatation of the blood vessels, improving blood circulation, especially microcirculation. It increases the oxygen saturation and oxygen partial pressure [pO2] of arterial blood and generally improves the properties of blood flow.

Hyberbaric Oxygen Therapy (HBOT)

Hyperbaric Oxygen Therapy (HBOT) is the medical use of oxygen at a level higher than atmospheric pressure. The equipment required consists of a pressure chamber, which may be of rigid or flexible construction, and a means of delivering 100% oxygen into the respiratory system. Published research shows that HBOT increases the life span of stem cells after injection and provides an oxygen-rich atmosphere for the body to function at optimum levels.

Ozone Therapy (O3)

Our ability to carry oxygen to vital organs may be reduced over time due to respiratory, heart, and circulation complications. Ozone is a gas composed of 3 oxygen atoms. Adding more Ozone (thus oxygen) to the system increases metabolic action and helps create an environment that is less conducive to infection. This is an alternative to antibiotics and other drugs that stress the liver and kidneys.

Folate IV (B9) & Niacin Flush (B3)

This injection of vitamin B9 and B3 is designed to open up blood vessels, modulate stem cell DNA methilation and support DNA creation.

Human Placenta IV

Human placenta is rich in a variety of amino acids, peptides, growth and repair factors that can comprehensively regulate the body's various functions. Through the body's circulatory system, it can comprehensively enhance beauty and health, regulate endocrine function and delay premature aging. Human placenta injections support the regenerative action of stem cells by providing them with adequate factors and nutrients.

FMT

FMT stands for Fecal Microbiota Transplant (also known as Human Microbiota Transplant, or HMT), which is defined by the taking of gut bacteria from a healthy donor and reintroducing it into a patient, allowing the patient's gut flora to fully repopulate with healthy bacteria. This re-population can destroy overpowering bacteria (such as clostridium difficile (C. diff)) and bring other bacteria back to a normal level. This therapy can help to improve the immune function, bowel movement, neurological function, and can help fight and prevent various chronic conditions. The therapy is easily provided orally using gastro-resistant capsules (capsules that dissolve in the bowel only).

Myer's Cocktail

The Myer's cocktail is an intravenous vitamin infusion containing Magnesium, multiple B vitamins, and Vitamin C used to enhance the immune system, improve fatigue and migraines, and reduce symptoms of fibromyalgia, allergies, asthma and more. The Myer's cocktail works by increasing the concentration of several essential vitamins and minerals in the blood, bypassing the poor absorption of the gastrointestinal tract.

Hydrogen Therapy

Hydrogen is a unique gas that has the capability to act at the cellular level. Hydrogen can cross the blood-brain barrier, enter the mitochondria, and translocate to the cell's nucleus under certain conditions. Once hydrogen has reached these locations it can exert antioxidant, anti-apoptotic, anti-inflammatory, and cytoprotective properties that are beneficial to cells in the body. The therapy is provided by inhalation of a gas mixture composed of 66.6% hydrogen and 33.3% oxygen.

Our Center

Good Life Clinic – Bangkok, Thailand.

Our regenerative center is located in the heart of Bangkok, Thailand. The center focuses on patients' well being through holistic therapies that aim at treating the cause of the symptoms to bring health and youth from the inside out. Each patient's situation is being looked at globally. Just like a tree that loses its leaves prematurely may need to be treated at its roots, we are looking at different body and cell interactions to provide healing and regeneration.

Safety

It is first important to mention that umbilical cord derived stem cells have been widely researched in the last two decades and scientist have not shown any concern regarding their general clinical application as long as proper cell processing standards are being followed.
A thorough processing and quality control program is paramount to ensure the safety and viability of your stem cell therapy and Beike is dedicated to providing our clients with the best quality stem cells in the industry. In addition to follow the GMP, GTP and GCP standards, our main laboratory located at our head office in Shenzhen, China is the first one in the world to successfully pass the AABB (formerly known as American Association of Blood Banks) accreditation for the processing, banking and distribution of umbilical cord blood stem cells, umbilical cord mesenchymal stem cells, placenta mesenchymal stem cells and whole blood nucleated cells. It is also one of the few in the world to be accredited for the processing, banking and distribution of somatic cells:
http://www.aabb.org/sa/facilities/celltherapy/Pages/SomCellAccrFac.aspx

During the stem cell processing and quality control procedures, each batch of stem cells will be checked multiple time for quality, quantity, viability, and safety. Each cell preparation is accompanied by 501 standard files, 655 quality records, and an extra 130 files following cell preparation, testing and quality assessment. Files of each cell preparation are traceable and ensure optimal cell quality to our clients.

Cell processing

Umbilical Cord Sample Collection

It is a common practice in China for mothers to voluntarily donate the umbilical cord from the birth of their healthy full-term children. Every woman who enters a hospital in China to give birth is automatically tested for all major diseases including hepatitis and HIV. Detailed family histories are also collected from each mother prior to donation. This represents the first step of the screening process. Only umbilical cord products from women who have been fully screened and found to be completely healthy can be collected.
The second step in the screening process occurs when each sample is tested by technicians. Once the product has tested negative for communicable diseases, it is transferred to our laboratories and becomes the property of Beike Biotechnology. All samples (umbilical cords and cord blood) are transferred within just a few hours and labeled with tracking numbers upon arrival. From this stage, Beike is responsible for each and every sample that is processed and provided to clients. The cord blood and cord samples are then processed in two separate areas of the Beike laboratory.

Umbilical Cord Blood Stem Cells - Processing and Cryopreservation

Cord blood stem cells are first centrifuged in an AUTOXPRESS® device. During the procedure stem cells (mononuclear cells), red blood cells, and plasma are all separated from each other. The separated stem cells are then placed in a sterilized, temperature and humidity-controlled incubator where they are matured in a culture medium for 2 to 5 days.

Once the desired level of maturation has been reached, the stem cells are then separated into 100 tubes, and samples from those tubes are taken for testing while the tubes themselves are kept frozen. The test samples are inspected for any malformation, infection, or other anomaly for 14 days. Once all tests have been conducted successfully, the cord blood stem cells in the tubes are thawed and then put back in a new medium to continue the maturation process until it is fully completed. The cells are then tested once more before being put in a preservative medium and cryo-preserved in nitrogen tanks.

Umbilical Cord Mesenchymal Stem Cells - Processing and Cryopreservation

Umbilical cords are cleaned and cut into 1 to 4 mm cubes. Pieces are then put in a flask along with a culture medium in order for the mesenchymal stem cells to come out of the tissues and start replicating. As the volume of the cells increases in each bottle, the culture medium is being changed to accommodate the expansion process. The culture's first passage will last for around 17 days until the bottles are 75% filled. The culture medium is replenished for the second and third passage, which will both last for 2 to 3 days. Once the 3rd passage is accomplished successfully, the cells are placed in 100 tubes, and samples from those tubes are taken for testing while the tubes themselves are kept aside, frozen. At this point, the cells will be tested again for any malformation, infection, or other possible anomaly. These tests will last 14 days. Once the tests are passed successfully the cells will be cultured 2 more times (4th and 5th passage). They are then put into cryogenic tanks for banking.

Thawing and Final Checks

When required for clinical use, specific stem cell samples are removed from their nitrogen tanks and the cryo-preserving medium is washed away. At that point, all batches of stem cells will undergo final testing. After successfully passing the final tests, each unit is placed into either a sterile vial or a sterile IV bag for upcoming clinical application.

Packing and Transport

Two to three days a week, our lab technicians prepare the cell products to be transferred to the treatment center. Each patient is assigned his or her catalogued sample and this information is tracked during transport, reception, and transplant of each unit. The stem cells are transported to the center on the day of transplant which takes place as soon as the cells reach the hospital. They are typically provided to the patients within 8 hours after laboratory release. All Beike stem cell packets are always under the supervision and care of Beike employees.

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