



Empowering You to Live with Confidence



Expanding the Possibilities of a Better Tomorrow



So You Can Share More Time with Those You Love

EHL
BIOTECHNOLOGY
INSTITUTE
Blo
STEM CELL



The Value of Life Sciences—Adding, Multiplying, and Sharing

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E

**Aesthetics is about adding confidence to life.**

EHLBIO goes beyond outward beauty to explore the moments when confidence and dignity are restored.

H

**Health is about multiplying possibilities.**

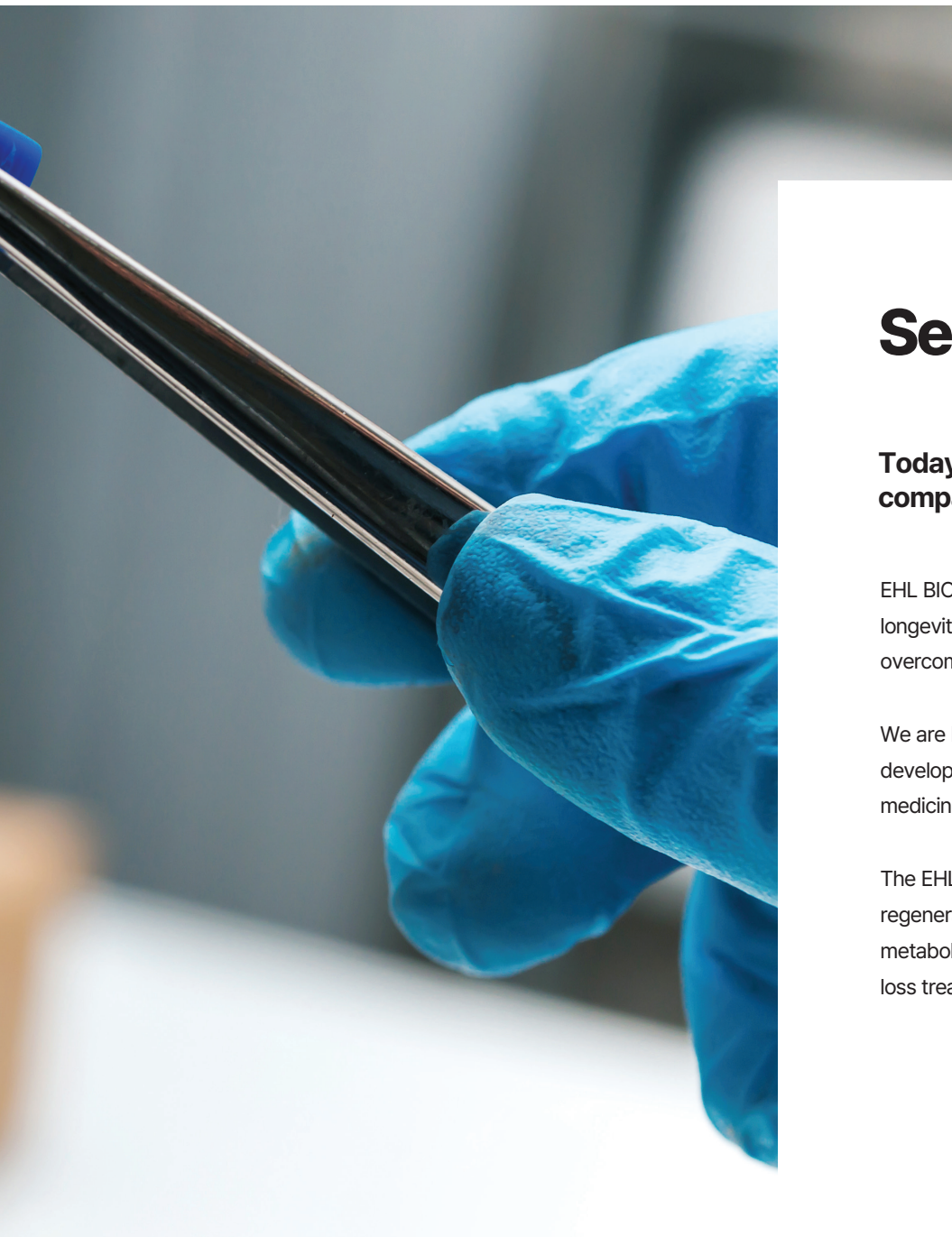
We help healthy cells, healthy recovery, and healthy daily living expand the possibilities of life.

L

**Longevity is about sharing more time.**

It is not simply about living longer, but about creating more time to laugh and be together with the people we love.





See the Future at EHL!

Today, EHL continues its dynamic rise as a biotechnology company attracting worldwide attention.

EHL BIO is a research and development institute established to extend human longevity and help people lead younger, healthier lives by developing solutions to overcome disease and aging.

We are leading the commercialization of innovative treatments by combining the development of stem cell and immune cell therapies—key areas of future regenerative medicine—with groundbreaking medical cell therapy technologies.

The EHL BIO Research Institute is dedicated to research and development in regenerative medicine for the treatment of neurological, osteoarticular, cardiovascular, metabolic, and autoimmune diseases, as well as anti-aging, health promotion, hair-loss treatment, and aesthetic dermatology.





EHL Protects You.

Personalized medical care cannot be easily replicated. It requires the knowledge, technology, and expertise gained through years of bringing cell therapies into clinical practice. A personalized solution designed for your body begins with your own cells.



Regenerative Medicine (Regenerative Medicine)

Regenerating damaged tissues and organs

- 1 Adipose-Derived Stem Cells** | World's First Phase III IV Trial
 - Stem cell therapy for diseases caused by impaired organ or tissue function (liver cirrhosis, diabetes, hypertension, Parkinson's disease, rheumatoid arthritis, and other intractable diseases)
 - Anti-aging treatment
- 2 Urine-Derived Stem Cells (KLOCELL)** | World-First Trial
 - Demonstrates superior efficacy in treating kidney, urinary, and reproductive system disorders compared with other stem cells
 - First in the world to demonstrate that UDSCs are stem cells that secrete Klotho (Published in an international journal / Patent granted)
 - World's first KLOCELL clinical trial for chronic diseases planned
- 3 EPC (Vascular Endothelial Cells)**
 - Cells designed to restore damaged vascular endothelial function and promote blood vessel regeneration
 - Used to improve microcirculation and support recovery through angiogenesis

Defensive Medicine (Defensive Medicine)

Protection against cancer and viruses

- 1 N.K**
 - Representative immune cells of the first line of defense (innate immunity), capable of recognizing abnormal cells and immediately detecting and eliminating cancer cells, virus-infected cells, and other abnormal cells
- 2 D.C**
 - Professional antigen-presenting cells involved in both innate and adaptive immunity, primarily presenting antigens to T cells
- 3 T**
 - Cells that express T-cell receptors (TCRs) capable of recognizing specific antigens on cancer cells and virus-infected cells

Anti-Aging Medicine (Anti-aging Medicine)

Healthy longevity and anti-aging medicine

- 1 KLOSOME®** (Method-of-Use Patent / Composition-of-Matter Patent / Trademark Registration)
 - Anti-aging effects of Klotho protein
 - Skin-regenerative efficacy of stem cell-derived exosomes

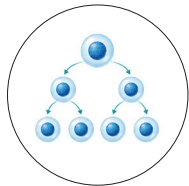
Stem Cells

What Are Stem Cells?

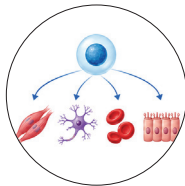
Stem cells are undifferentiated cells with the ability to self-renew and differentiate into approximately 210 types of specialized cells that make up the human body.

Characteristics of Stem Cells

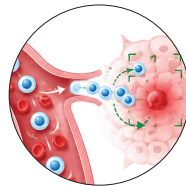
- **Self-Renewal** : Stem cells can produce new stem cells with the same form and capabilities as themselves.
- **Differentiation** : Stem cells can transform from an undifferentiated state into specialized cells with specific structures and functions according to the body's needs.
- **Homing Effect** : When administered intravenously, stem cells can migrate to damaged areas of the body.



Self-Renewal



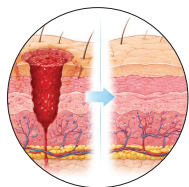
Differentiation
Capacity



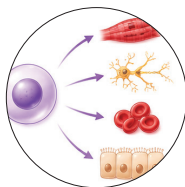
Homing Effect

Functions of Stem Cells

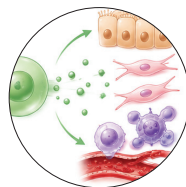
- **Wound Healing** : Regenerates damaged cells
- **Differentiation** : Differentiates into damaged cell types and regenerates healthy cells
- **Paracrine Effect** : Improves tissues by secreting cytokines and growth factors
- **Immune Regulation** : Regulates immunity by normalizing the function of immune-related organs
- **Prevention of Cell Death** : Helps prevent cell death in the body
- **Blood Supply Through Angiogenesis** : Regenerates damaged blood vessels and supports normal blood flow



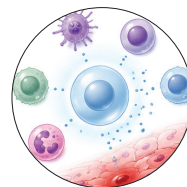
Wound Healing



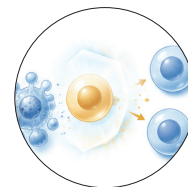
Differentiation



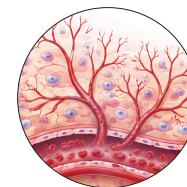
Paracrine Effect



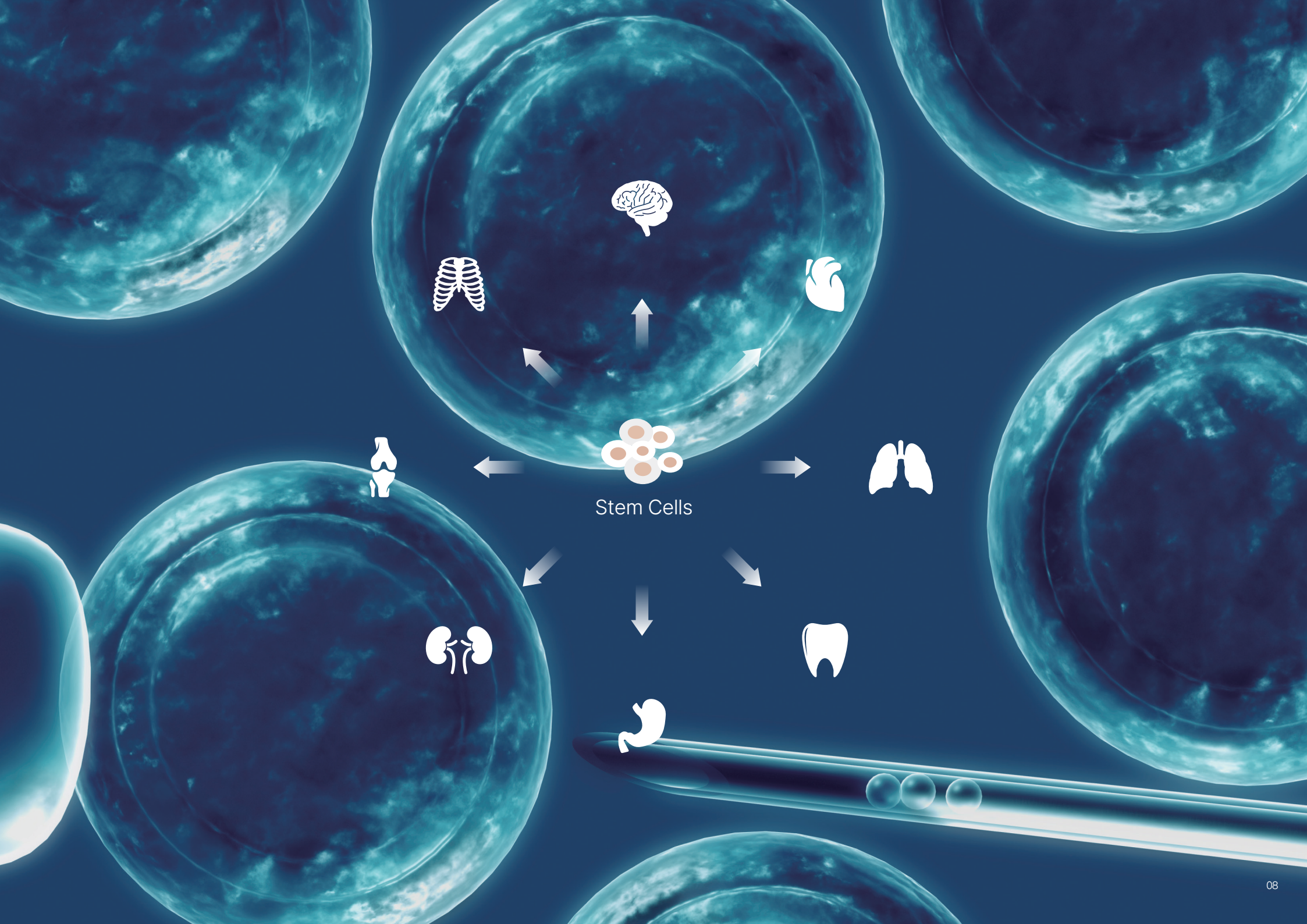
Immune Regulation



Prevention of
Cell Death



Blood Supply Through
Angiogenesis





EHL Stem Cell



EHL is dedicated to autologous stem cells.

Even if progress takes a little longer, we will always follow the right path.

Personalized Stem Cell Therapy

The dream of personalized healthcare is becoming a reality. Because the treatment uses the patient's own cells, the risk of immune rejection is minimized. Each treatment undergoes a dedicated cell-culturing process and rigorous quality testing to ensure the delivery of high-quality stem cells.

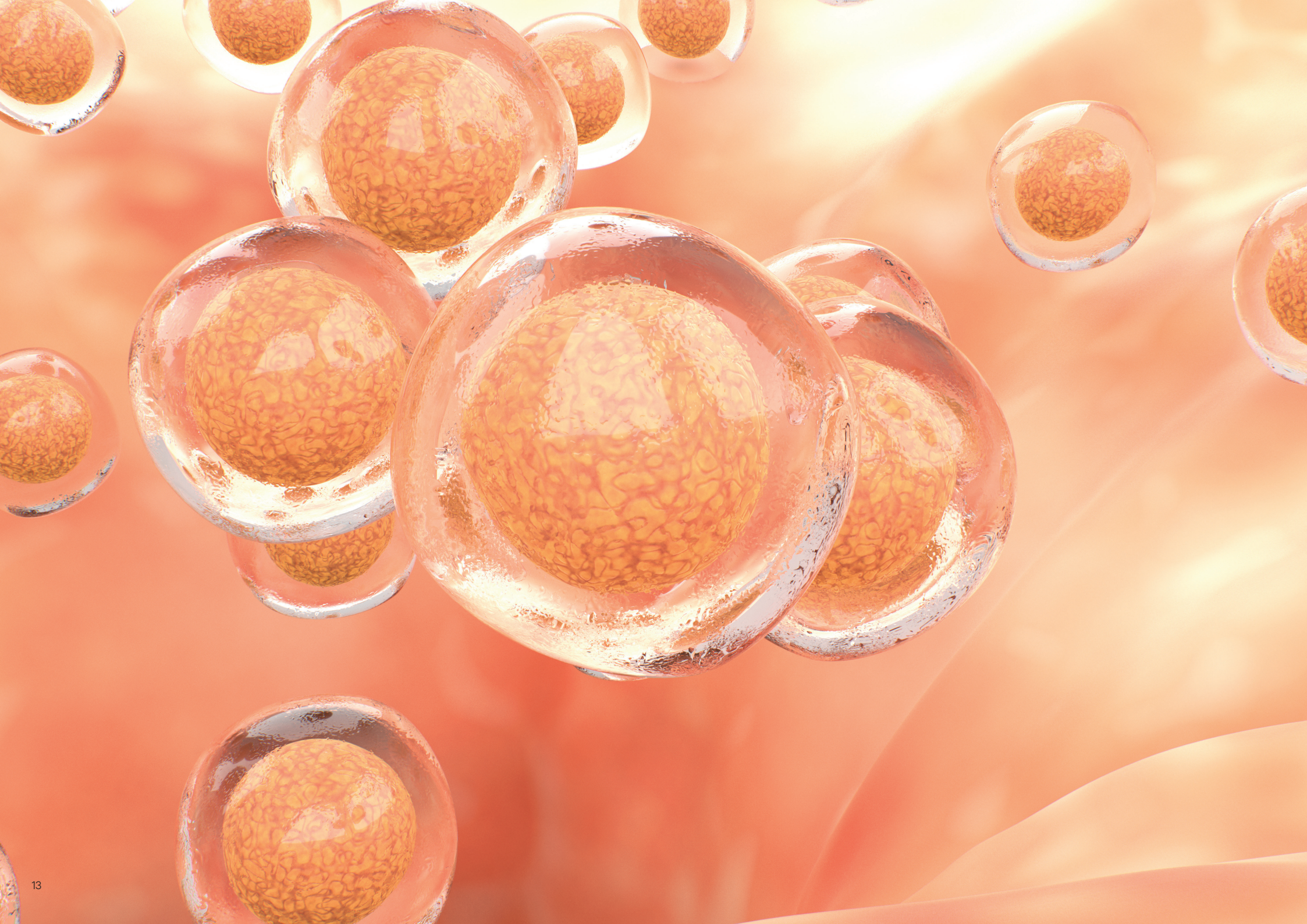


Combined Intravenous (Systemic) and Targeted Administration to the Affected Area

When administered intravenously, stem cells circulate throughout the body and may reach areas of damage that the patient may not have been aware of, supporting the regeneration of damaged tissues.

Direct administration to tissues with little or no blood supply, such as cartilage, or to areas suitable for targeted injection may provide more focused regenerative support.

By combining systemic intravenous administration with direct administration to the affected site, multiple therapeutic mechanisms may work together, potentially supporting improved treatment outcomes.



Adipose-Derived Stem Cells

Adipose-Derived Stem Cells

Adipose-derived stem cells offer numerous advantages.

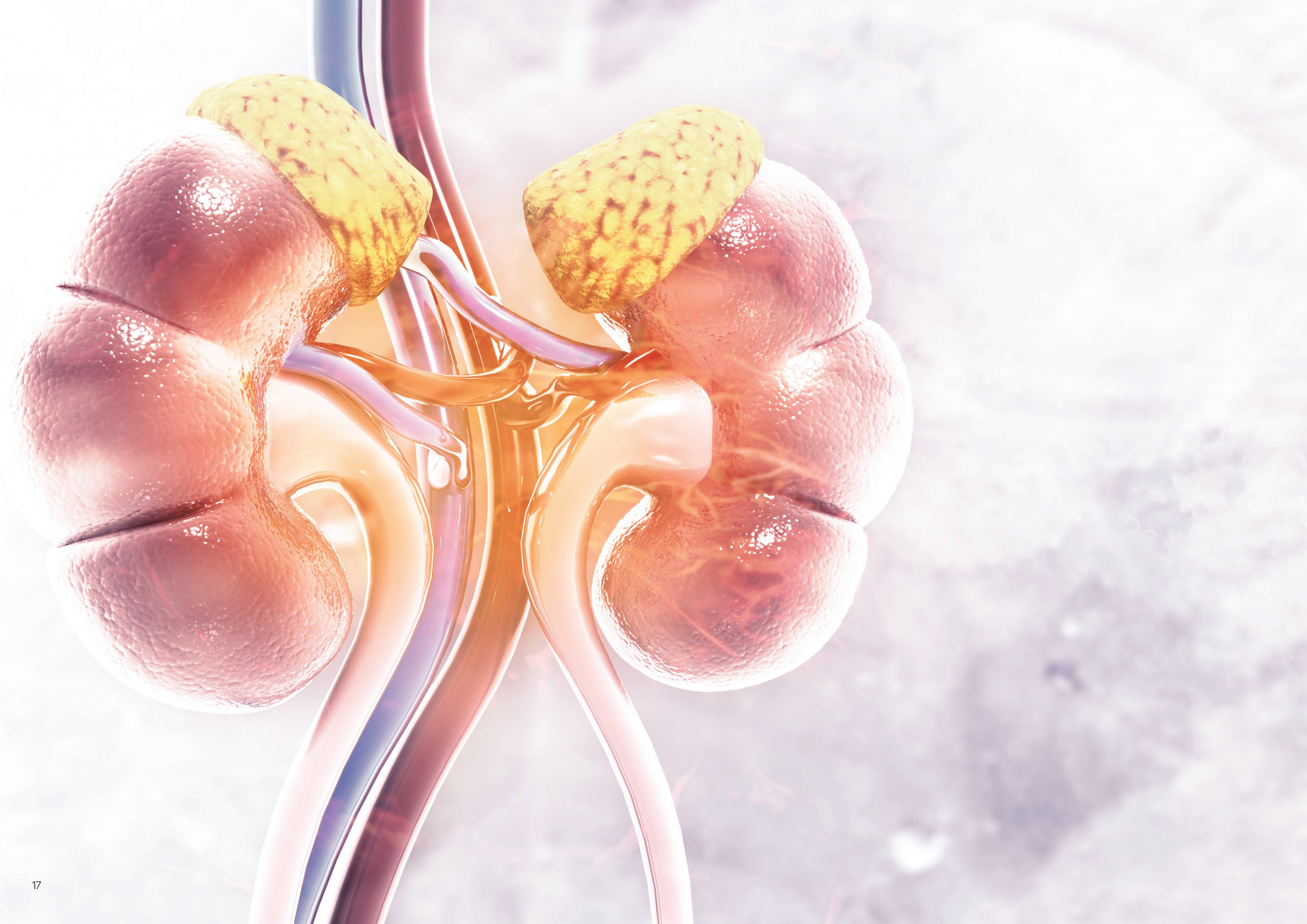
Adult stem cells obtained from sources such as adipose tissue, umbilical cord blood, and bone marrow can be utilized without many of the ethical concerns associated with embryonic stem cells and are generally considered to have a lower risk of tumor formation.

Among these, adipose-derived stem cells offer the distinct advantage of allowing a large number of cells with preserved stem-cell characteristics to be obtained from individuals across a broad range of age groups.

Using autologous adipose-derived stem cells, EHL is conducting a Phase III clinical trial in the field of atopic dermatitis treatment involving multiple intravenous administrations. The company states that this is the world's first Phase III clinical trial of its kind.

Category	Embryonic Stem Cells	Adult Stem Cells		
		Adipose-Derived Stem Cells	Bone Marrow-Derived Stem Cells	Cord Blood-Derived Stem Cells
Cell Source	Oocytes and fertilized embryos	Adipose tissue	Bone marrow	Umbilical cord blood
Ease of Cell Collection	Difficult	Easy	Difficult	Moderate
Large-Scale Expansion	Difficult	Easy	Difficult	Difficult
Differentiation Potential	Excellent	Very high	Limited	High
Ethical Concerns	Present	None	None	None
Potential for Teratoma Formation	Present	None	None	None
Relative Stem Cell Yield	High	Very high	Low	Low

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KLOCELL

Key Features of Urine-Derived Stem Cells

Urine-derived stem cells may offer a new therapeutic paradigm for patients with chronic kidney disease, particularly those with limited treatment options who may otherwise require dialysis or kidney transplantation.

Urine-Derived Stem Cells vs. Other Stem Cells

Compared with conventional stem-cell sources, urine-derived stem cells may offer distinct potential for applications involving diseases of the kidneys and the urinary and reproductive systems.



	Bone Marrow-Derived Stem Cells	Urine-Derived Stem Cells	Adipose-Derived Stem Cells	Embryonic Stem Cells / Induced Pluripotent Stem Cells
Self-Renewal and Proliferative Capacity	Low, CPDL < 30–50	High, CPDL 60–70	Moderate, CPDL 30–50	High, CPDL < 200
Multilineage Differentiation Potential	Multipotent	Multipotent	Multipotent	Pluripotent
Urological Differentiation Potential	Low, less than 10%	High, 60–85%	Low, 10%	Low
Telomerase Activity	X	High	X	High
Cell Collection Method	Invasive	Non-invasive, easy, low-cost, safe	Invasive	Invasive
Immunomodulatory Capacity	O	O	O	-
In Vivo Tumor Formation	X	X	X	O

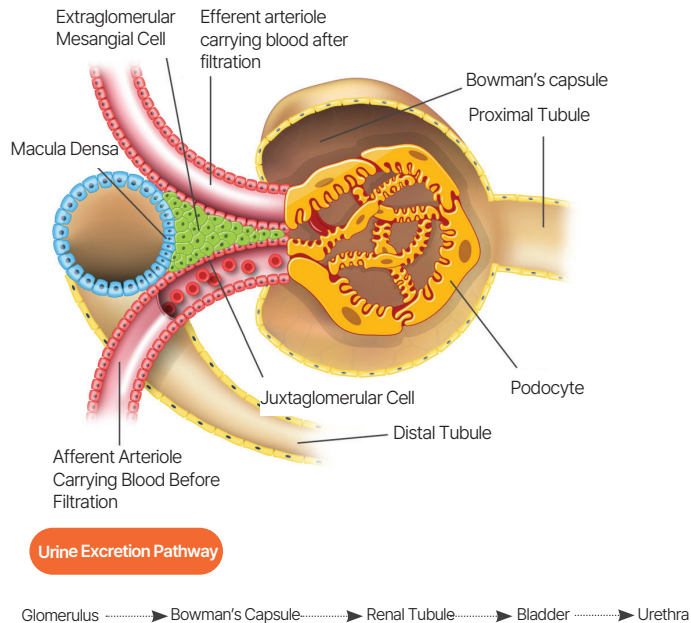
*CPDL : Cumulative Population Doubling Level

KLOCELL

What is KLOCELL?

KLOCELL

Human urine contains various types of cells originating from the kidneys, urinary tract, and bladder. Among these, cells derived from the renal glomeruli and tubules exhibit stem cell characteristics. EHL's KLOCELL is a proprietary and differentiated cell therapy consisting of stem cells isolated from urine. It contains high levels of Klotho, an anti-aging protein and a key therapeutic factor for chronic kidney disease.



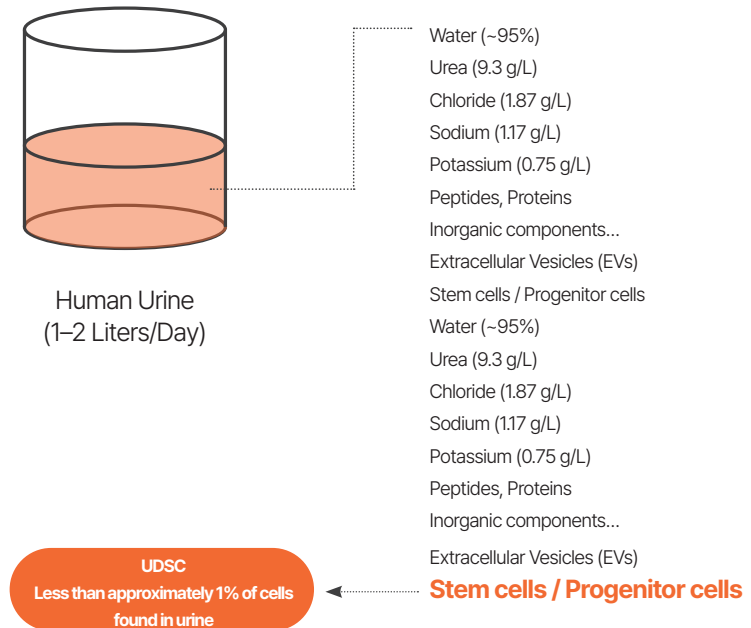
Various types of cells are shed into the urine

EHL is a cell therapy company dedicated to developing stem cell and immune cell therapies based on GMP-compliant manufacturing facilities and systems.

In particular, KLOCELL, which is currently undergoing the world's first clinical trial of its kind, was selected for support under the Pan-Governmental Regenerative Medicine Technology Development Program in 2022 and 2024. Its outstanding technological capabilities have also been recognized through awards including the Minister of Health and Welfare Award in 2024 and the Jang Young-sil Award in 2025 in the Technology Innovation category.

Origin and Role of Urine-Derived Stem Cells

Urine-derived stem cells can be isolated from urine and normally contribute to the natural repair of kidney damage. They can be expanded on a large scale and used as a treatment for chronic kidney disease.



KLOCELL

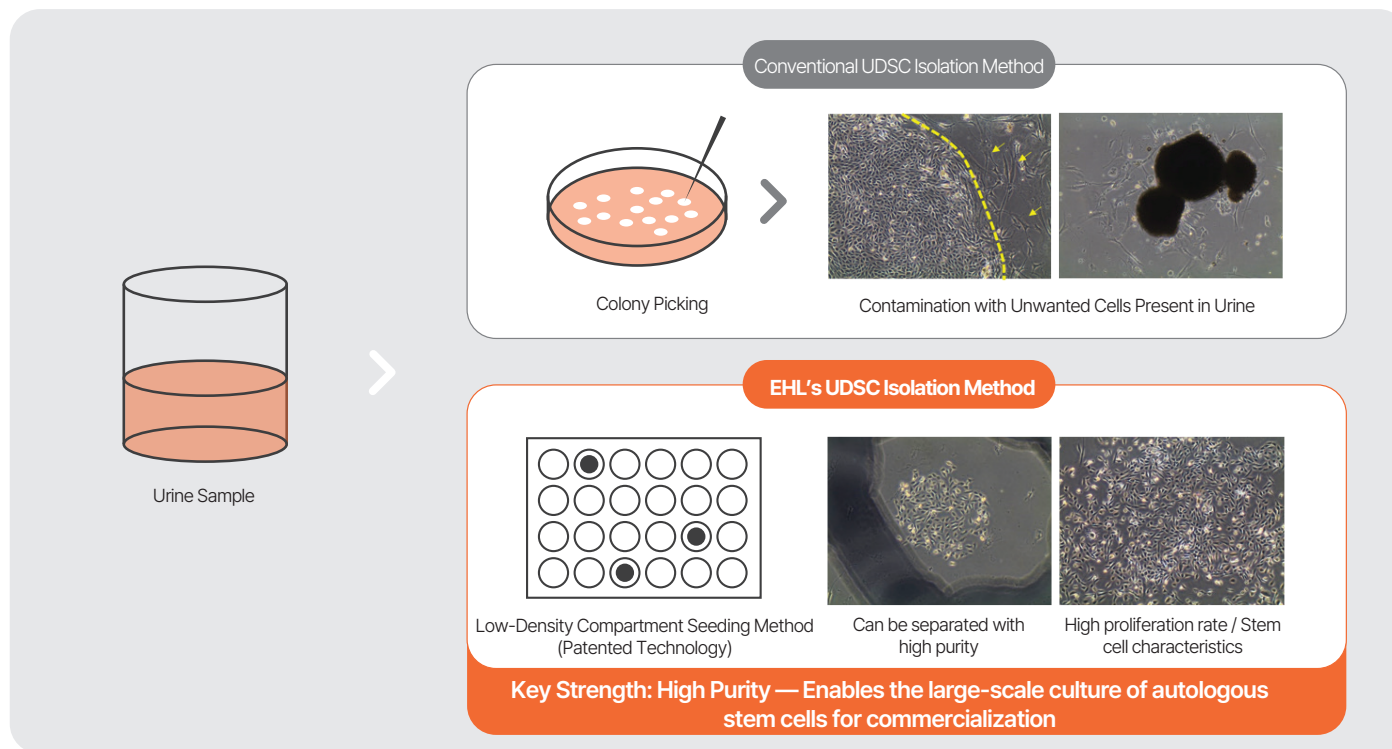
UDSC Isolation and Culture Method (Patent Registered)

"Culture Medium Composition for Urine-Derived Stem Cells and Method for Culturing Urine-Derived Stem Cells Using the Same"

- Patent application filed on November 4, 2019
(Application No. 10-2019-0139702)
- Patent registered on October 27, 2021
(Patent No. 10-2320682)



Foundational Patent for Urine-Derived Stem Cells



Klotho Secretion-Enhanced UDSCs (Patent Registered)

Urine-derived stem cells with enhanced therapeutic potential for kidney disease and a cell therapy composition comprising the same

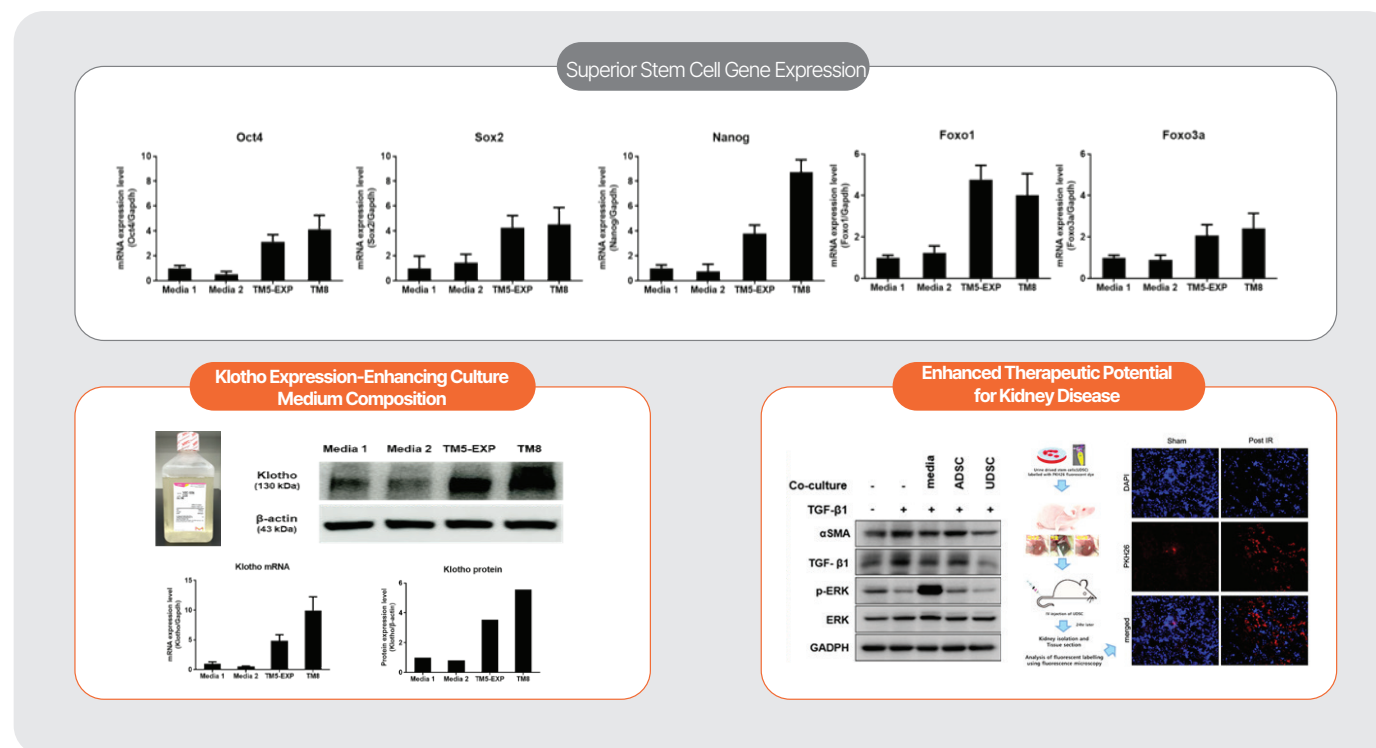
- Patent application filed on September 29, 2021
(Application No. 10-2021-0129299)
- Patent registered on April 6, 2022
(Patent No. 10-2385440)



World's First Patent for the Use of
Urine-Derived Stem Cells in Treating Kidney Disease

Chronic kidney disease has long lacked a fundamental treatment. Patients have therefore relied on management of the underlying condition, often eventually requiring hemodialysis or kidney transplantation.

To overcome these limitations, EHL Bio focused on the Klotho gene, which is involved in protecting against glomerular damage and supporting regeneration. The company holds patented technology covering a specialized culture medium and cell-culture process designed to promote high levels of Klotho protein secretion. EHL Bio is currently conducting what it states is the world's first clinical trial of urine-derived stem cells for the treatment of chronic kidney disease.



KLOCELL

KLOCELL

Protecting Your Kidneys.

Urine-derived stem cells originate from the kidneys and are considered “kidney-specific stem cells.” Compared with conventional stem cells, they may offer greater therapeutic potential for diseases affecting the kidneys and the urinary and reproductive systems.

EHL is conducting a clinical trial for the treatment of chronic kidney disease using KLOCELL, an advanced urine-derived stem-cell therapy containing enhanced levels of Klotho. EHL states that this is the world’s first clinical trial of its kind.

- Chronic kidney disease currently has no curative treatment and is associated with the highest medical expenditure per patient.
- UDSCs are “kidney-specific stem cells” originating from the kidneys.
- Compared with conventional stem cells, UDSCs demonstrate superior potential for treating diseases of the renal, urinary, and reproductive systems.
- Klotho is a key therapeutic factor for CKD that is primarily produced in the kidneys.
- We were the first in the world to demonstrate that UDSCs secrete Klotho. (Published in an international scientific journal)
- Patented Technology 1: High-purity isolation and large-scale culture of UDSCs (Foundational patent)
- Patented Technology 2: Culture technology designed to enhance the secretion of Klotho, a key therapeutic factor for kidney disease (World-first technology)
- We are conducting the world’s first Phase II clinical trial of KLOCELL as a treatment for chronic kidney disease.



KLOCELL is

EHL's proprietary cell therapy for kidney disease, developed using Klotho-enhanced urine-derived stem cells with characteristics specific to renal, urinary, and reproductive system disorders.

Turning discoveries in the laboratory into a better tomorrow for patients.

By connecting cellular research with real-world clinical experience, we create new possibilities for better treatment.



Stem Cell Treatment Case

Stem Cell Treatment Case

Adipose-Derived Stem Cells Offer Limitless Potential.

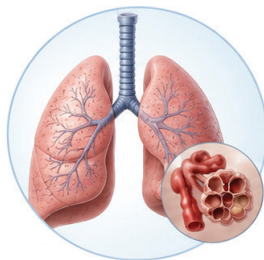
For people suffering physically and mentally from age-related diseases and disabilities, healthy aging is increasingly important. Stem cells hold the key to addressing these challenges.

Treating Diseases with Stem Cells

Stem cells have the ability to self-renew and differentiate into specialized tissue cells. These properties offer potential applications in the treatment of numerous conditions, including spinal cord injuries, organ damage, lung diseases, arthritis, diabetes, heart disease, Parkinson's disease, Alzheimer's disease, and amyotrophic lateral sclerosis (ALS).



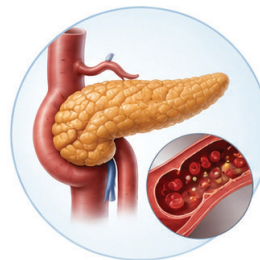
Spinal Cord Injury



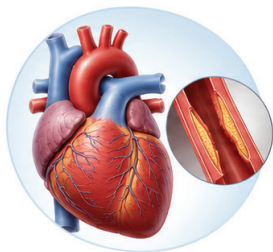
Lung Disease



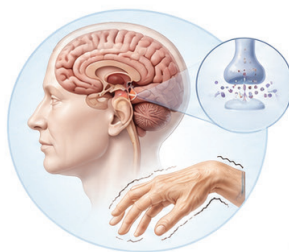
Arthritis



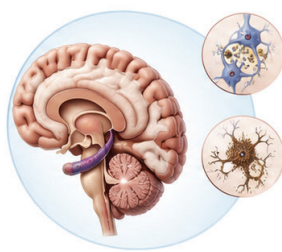
Diabetes



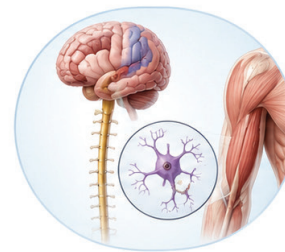
Heart Disease



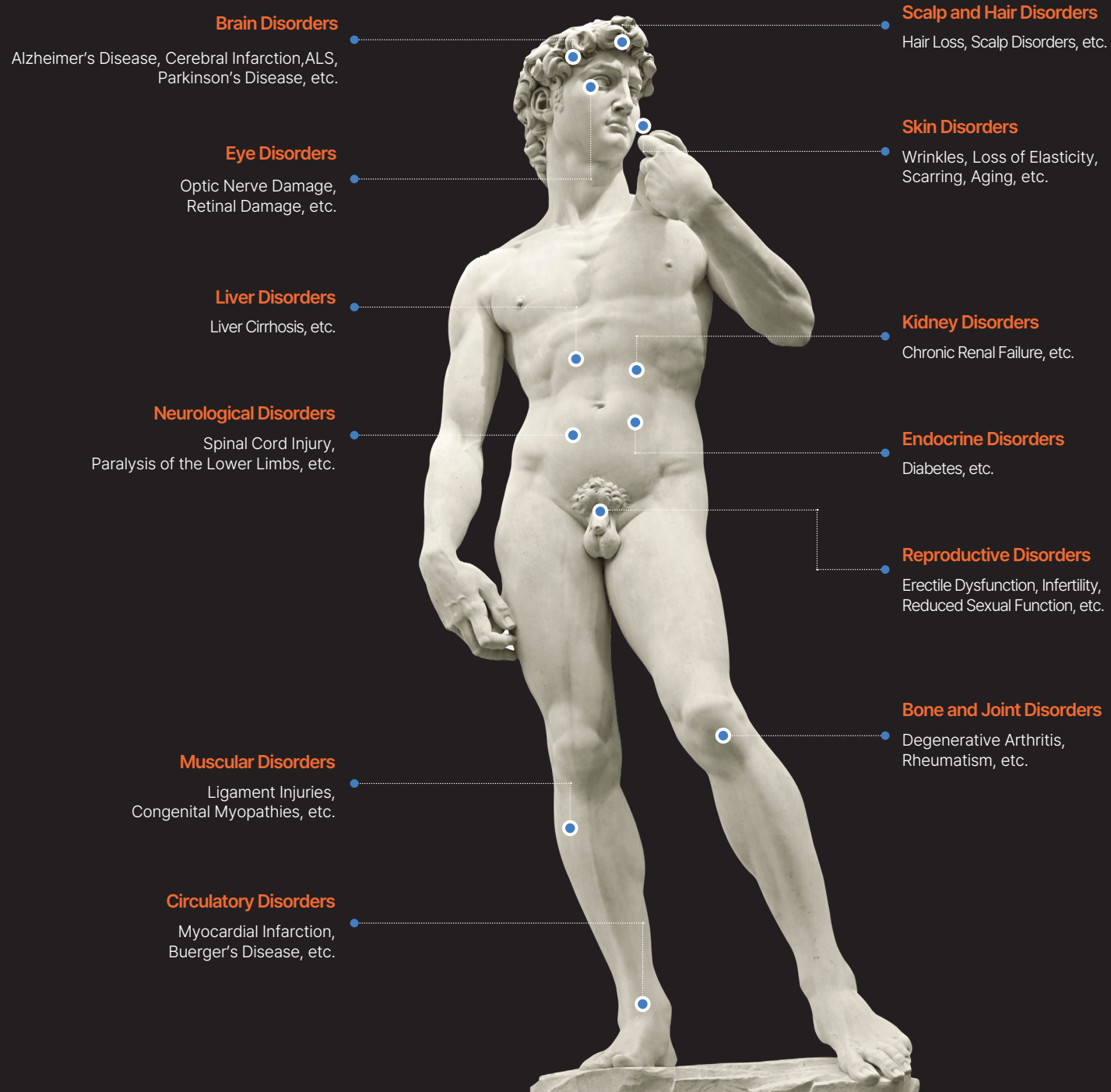
Parkinson's Disease



Alzheimer's Disease



Amyotrophic Lateral Sclerosis (ALS)



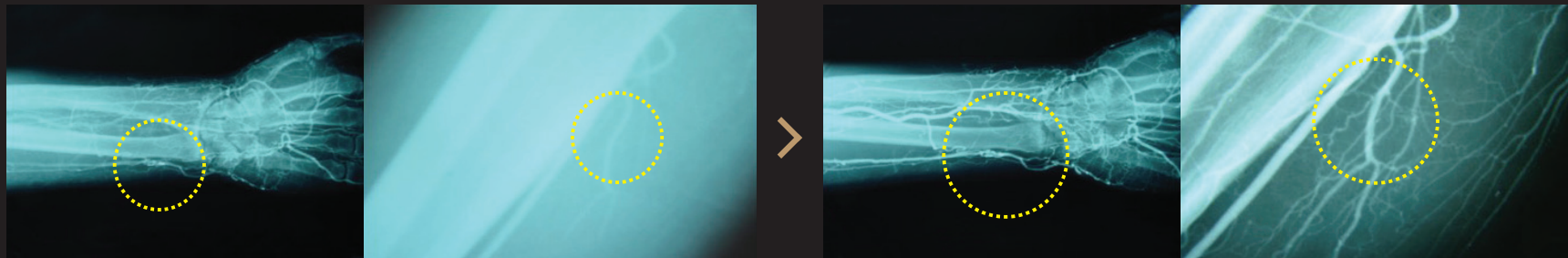
Stem Cell Treatment Case

Overcoming the Limitations of Conventional Drug Therapies Through Fundamental Regeneration

Stem cell research is being actively pursued worldwide and is expected to establish a new paradigm in disease treatment.

Vascular Regeneration Therapy

Adipose-derived stem cells promote vascular regeneration, improving blood flow and increasing vascular tissue.

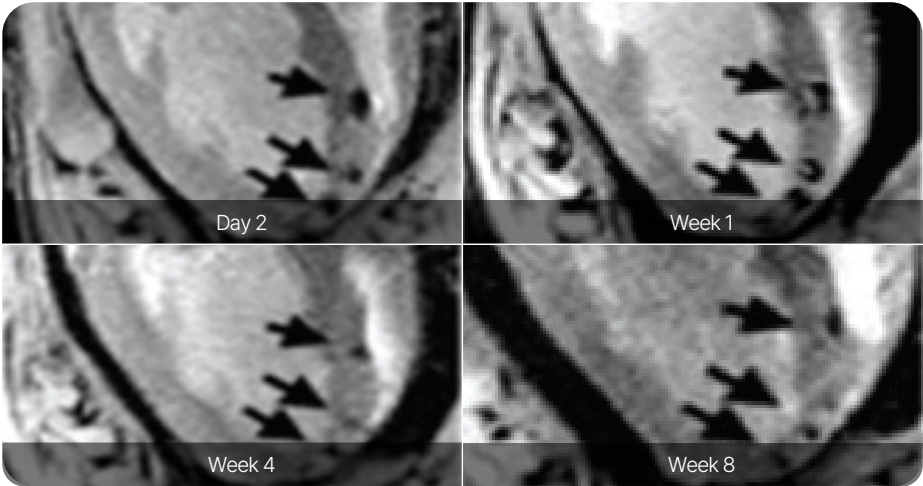
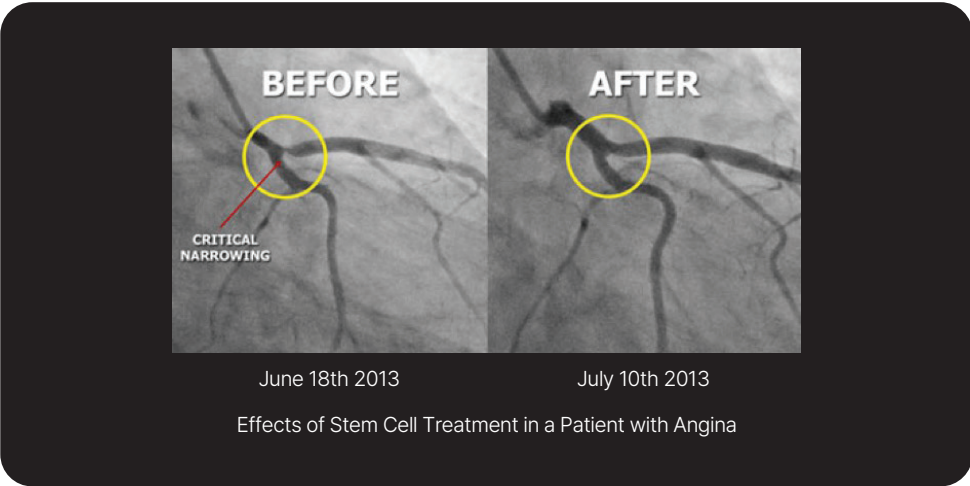


Before Treatment

After Treatment

Vascular Regeneration Effect

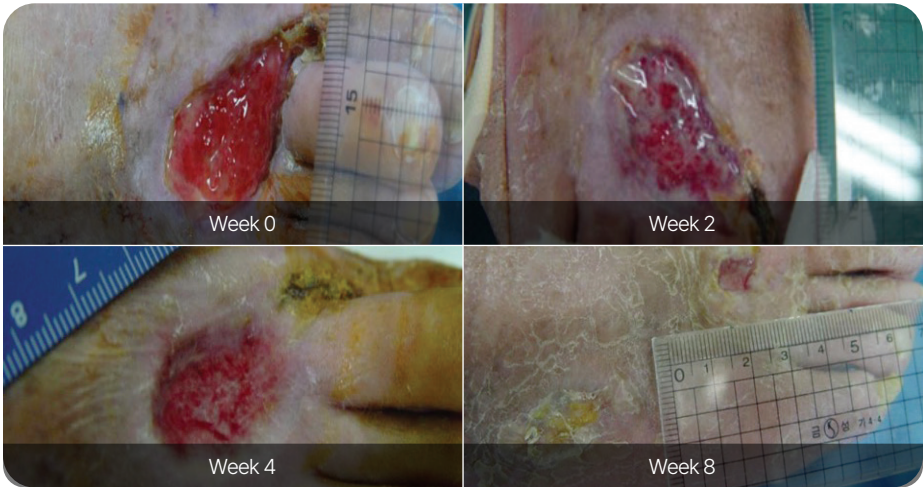
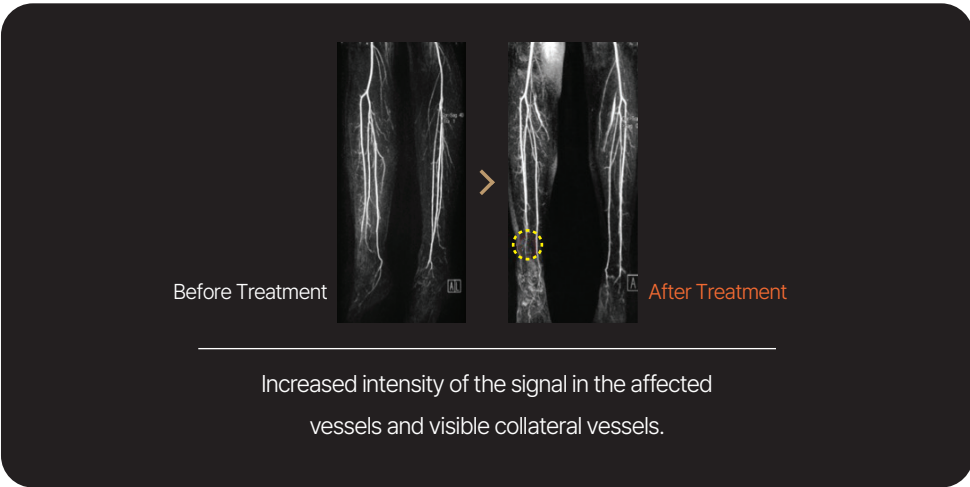
Increases blood flow by reopening blocked blood vessels or forming collateral vessels



Myocardial tissue damaged by myocardial infarction regenerated following stem cell treatment

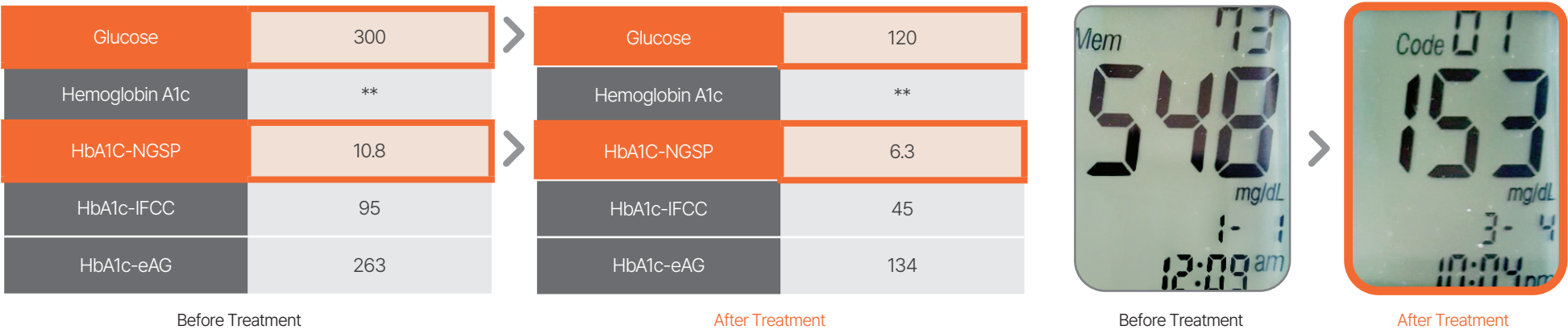
Buerger's Disease

A foot ulcer caused by impaired blood circulation in the lower-extremity arteries healed following stem cell treatment



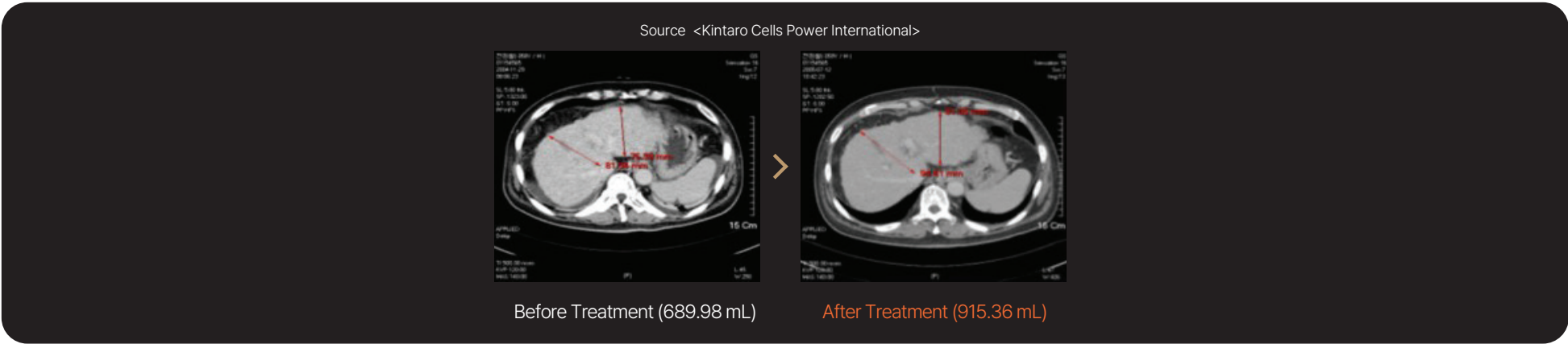
Diabetes Treatment

Blood glucose and glycated hemoglobin (HbA1c) levels decreased following stem cell treatment.



Liver Cirrhosis Treatment

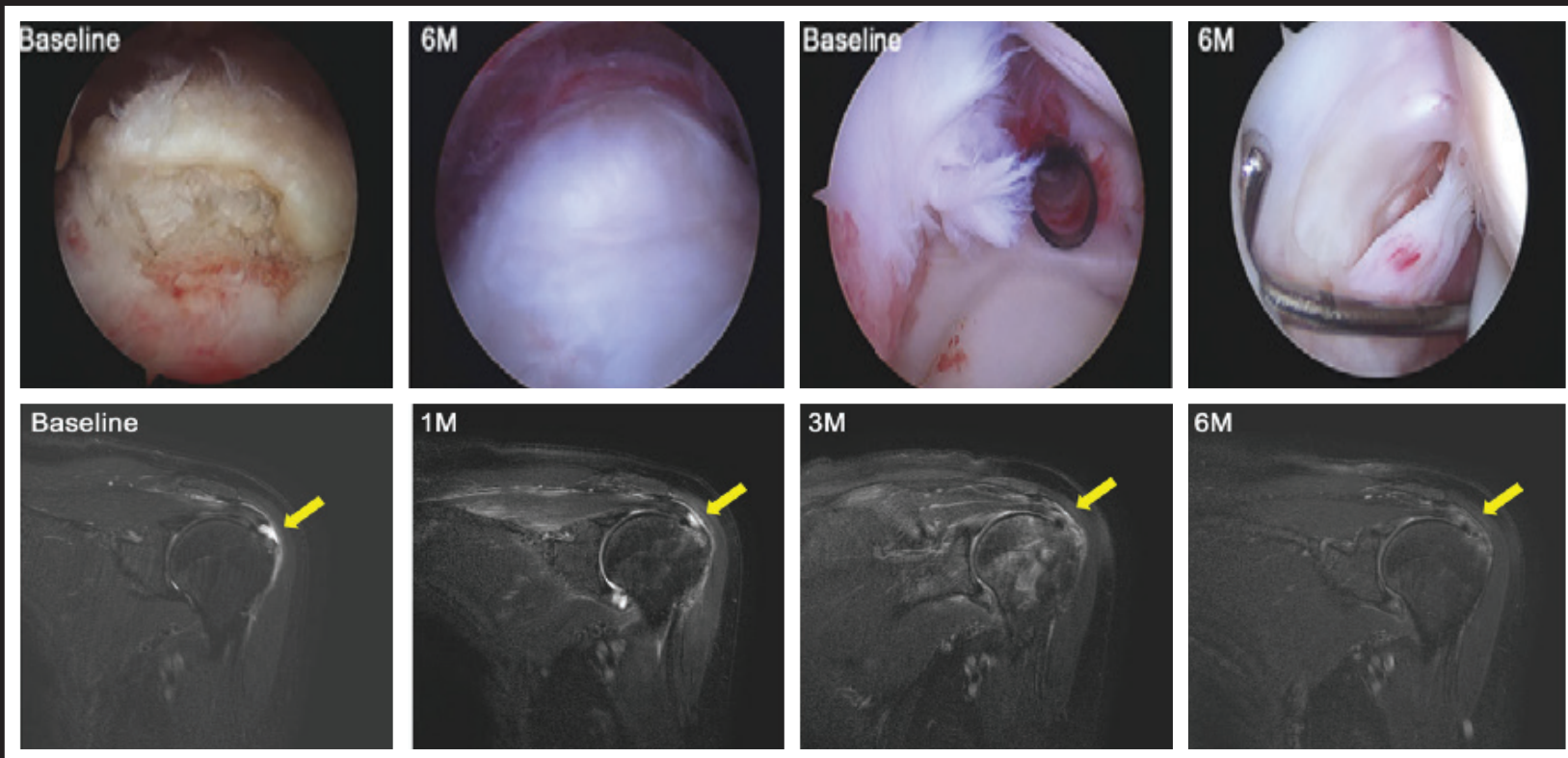
Liver Cirrhosis (59-Year-Old Male) — Following treatment, liver cells regenerated, increasing liver volume and softening the liver tissue.



Rotator Cuff Tear

Stem cell treatment regenerates and repairs the torn rotator cuff, restoring full function of the shoulder joint.

High-dose with an articular-side tear

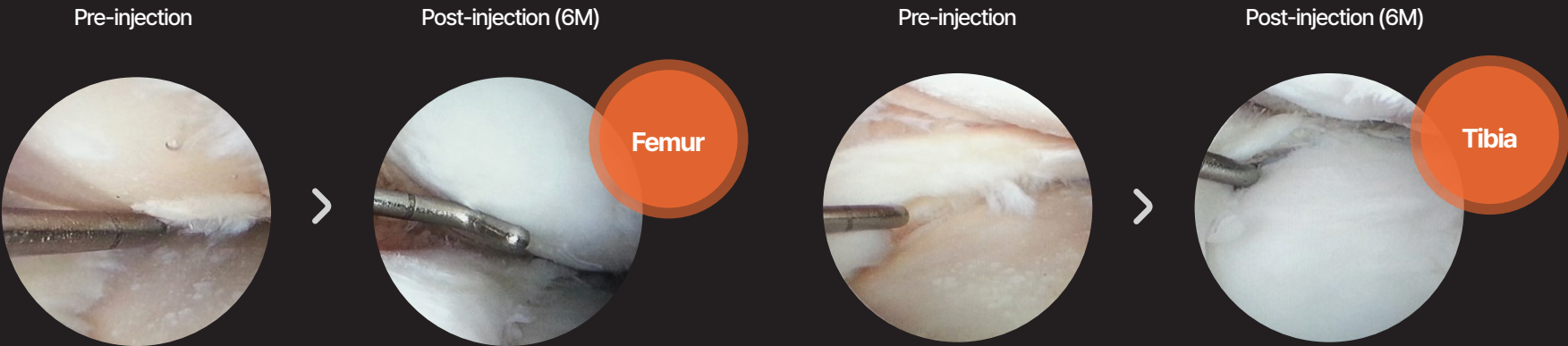


Joint Treatment | Degenerative Osteoarthritis

For age-related degenerative osteoarthritis, damaged cartilage tissue is regenerated.

No Cartilage Damage No Pain	Minimal cartilage damage 10% cartilage loss	Narrowing of the joint space due to cartilage damage Cartilage destruction and osteophytes (bone spurs)	The joint space is narrower than in Stage 2 due to further cartilage damage Widening of cartilage fissures	Severe narrowing of the joint space due to cartilage damage 60% cartilage loss Large osteophytes
Normal	Stage 1	Stage 2	Stage 3	Stage 4
				
No Treatment Required	Conservative treatment (medication, physical therapy, etc.)	Conservative treatment (medication, physical therapy, etc.)	Conservative treatment, Invossa, JointStem, etc.	Cartistem, JointStem, artificial joint replacement, etc.

Knee Treatment (63-Year-Old Male)



A male scientist with dark hair and glasses, wearing a white lab coat over a grey turtleneck, is focused on looking through a large, white and blue compound microscope. The laboratory environment is dimly lit with a cool blue tone. In the background, there are shelves with various glassware, including a flask with blue liquid. In the foreground, a petri dish with a red substance is visible, slightly out of focus. The overall atmosphere is one of scientific precision and expertise.

**EHL Remains Consistent.
Consistency Ultimately Becomes Expertise.**

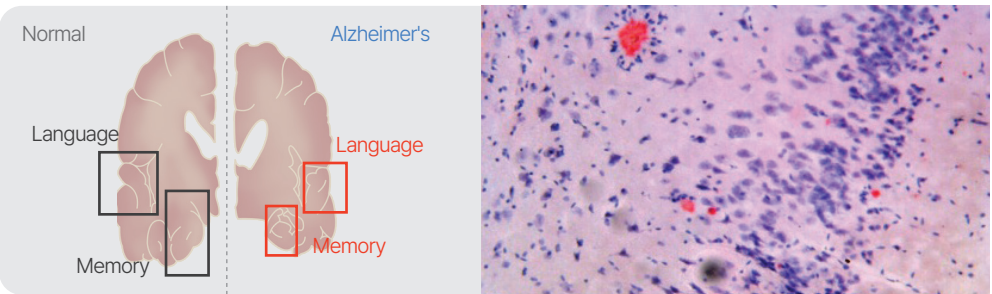
Stem Cells Help Prevent and Treat Dementia.

Alzheimer's dementia causes cognitive and language impairments through damage to the hippocampus, which controls memory, and the cerebral cortex, which contains language centers. Amyloid plaques—shown as red plaques in the center image—are considered a major cause of the disease.

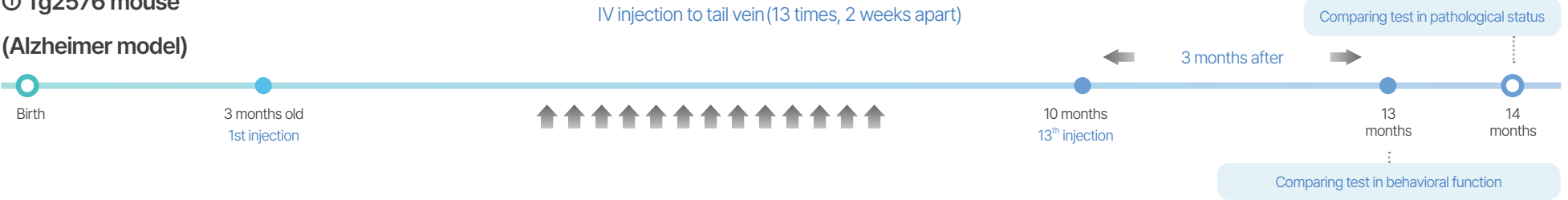
Stem cells help remove amyloid plaques and tangled tau proteins while improving glymphatic circulation, thereby contributing to the suppression of brain aging and the regeneration of brain tissue.

A reduction in amyloid plaques can be observed in key regions of the brain before and after stem cell treatment. Stem cells are known to help improve dementia symptoms or slow disease progression.

Source <PLOS ONE 7 (2012) e45757>



① Tg2576 mouse (Alzheimer model)



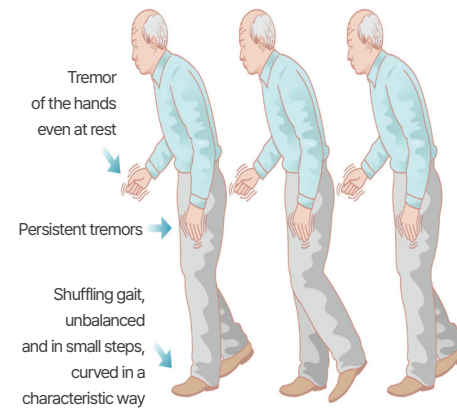
② Morris water maze

In the experiment, mice with dementia continued swimming because they could not remember the location of the platform in the water maze (left), whereas mice treated with stem cells located the platform immediately (right). The experiment showed that following stem cell treatment, the mice demonstrated a 23.4% improvement in cognitive and physical function and a 31.3% increase in lifespan, suggesting the potential effectiveness of stem cells in dementia treatment.

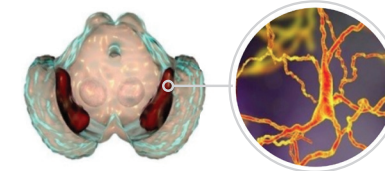
Source <Kanninen K et al. (2009) Proceedings of the National Academy of Sciences>



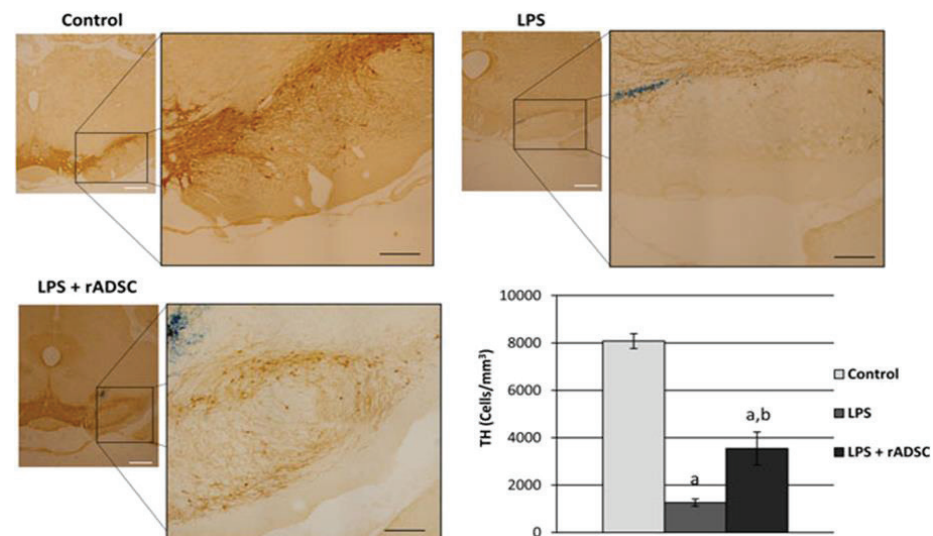
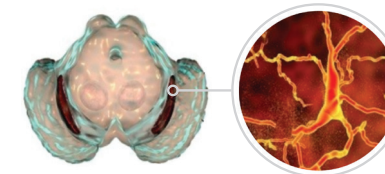
Six months after administration, more dopaminergic cells (TH-positive cells) were observed in the LPS + rADSC group than in the LPS group. This indicates that rADSC treatment reduced LPS-induced damage to dopaminergic cells.



Substantia Nigra of a Normal Brain



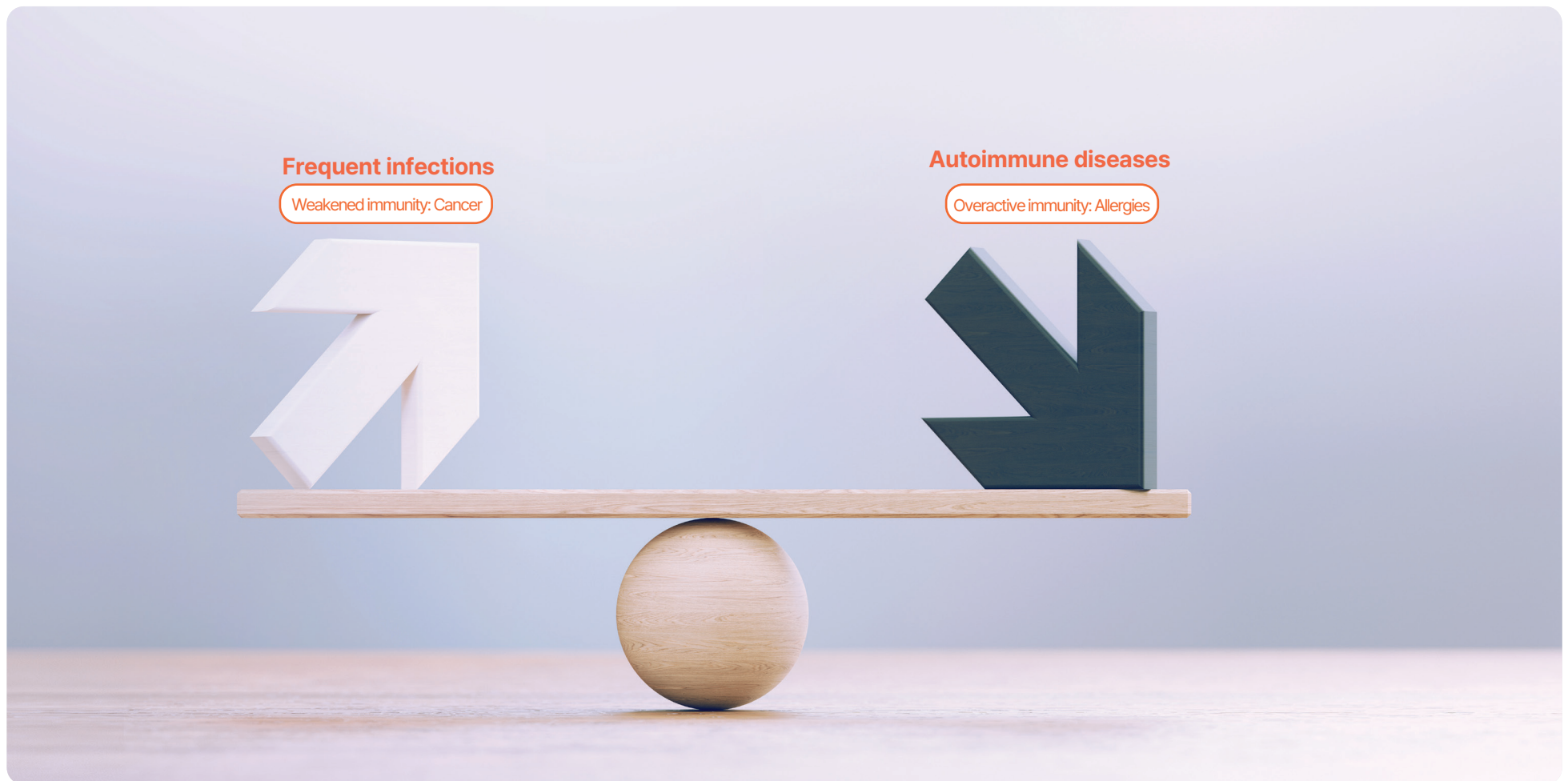
Substantia Nigra of a Patient with Parkinson's Disease



Stem Cell Immunomodulatory Function

Stem Cells Regulate Immune Function.

Stem cells enhance weakened immune function and normalize overactive immune responses, helping maintain balanced immune function in the body.



The Harmony of Life

Neither too much
nor too little—
the immune system also requires harmony.

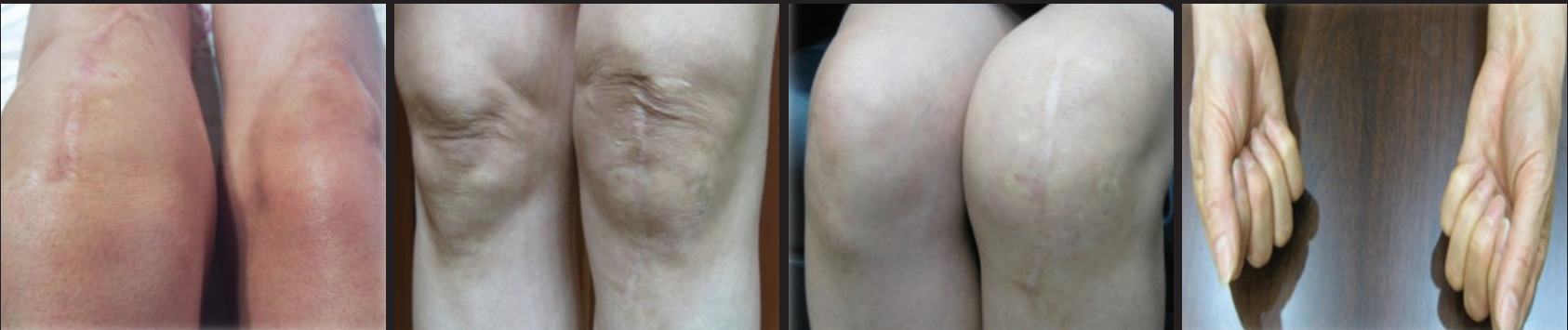
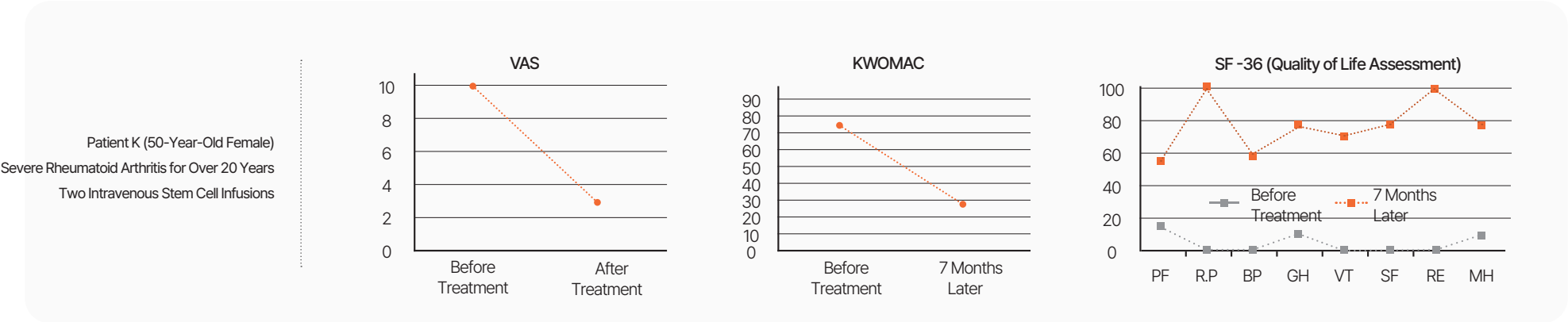


Stem Cell Treatment Cases for Autoimmune Diseases

Stem cells regulate the immune system to alleviate symptoms. Because the treatment is based on the patient's own adult stem cells, it has few side effects and may provide relatively long-lasting benefits.

Rheumatoid Arthritis

Rheumatoid arthritis is an autoimmune disease. Treatment improves the condition by normalizing inflammation levels caused by the immune response.



2009.9.19 (While Taking
Rheumatoid Arthritis Medications)

→ Steroids, Antirheumatic Drugs, Anti-Inflammatory Analgesics, etc.
Discontinued in March 2010

Psoriasis

Stem cell regenerative medicine enhances skin immunity and restores immune balance, resulting in a noticeable improvement in psoriasis symptoms.



Atopic Dermatitis

Enhances skin immunity and restores immune balance, resulting in noticeable symptom relief.



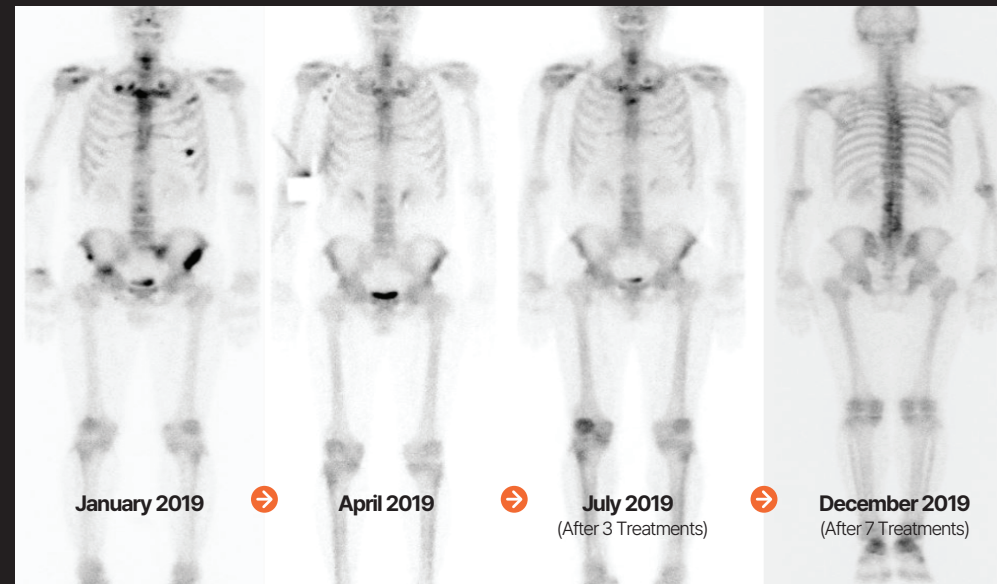
Cancer

After four months, the tumor decreased in size. The treatment was also found to support immune function and anticancer activity.



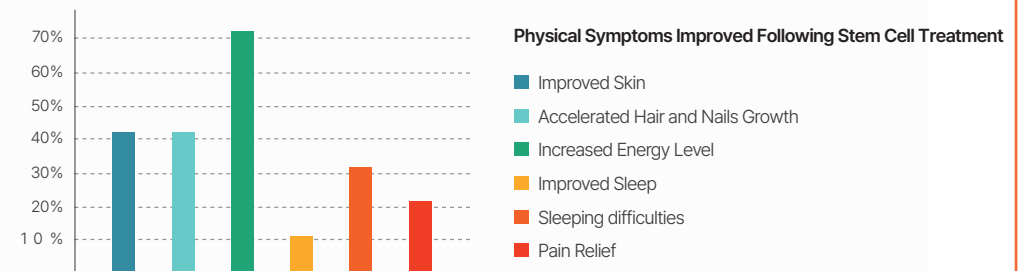
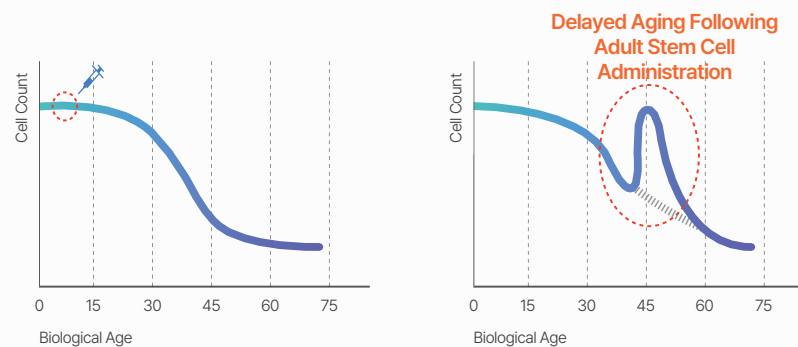
Prostate Cancer

Anticancer effects were observed in a patient with end-stage prostate cancer with systemic metastases.



Anti-Aging

A delayed aging effect was observed following adult stem cell administration.







Stem Cell Banking Program

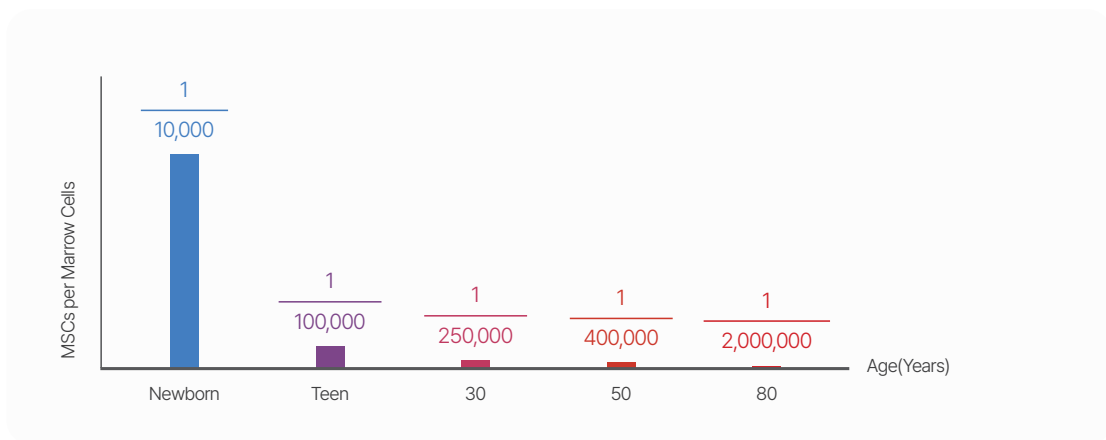
Stem Cell Banking Program for the Era of Living to 130

The EHL BIO Stem Cell Banking Program is an optimal choice for preparing a healthier future for you and your family.

While you are healthy, adult stem cells are extracted, isolated, and cultured from your own adipose tissue, then cryopreserved for long-term storage to prepare for unforeseen future risks such as aging, chronic diseases, and accidents.

Experience the remarkable advances of science and the limitless potential made possible through stem cell banking.

Age-Related Changes in Stem Cells



Stem Cell Adipose Tissue Collection and Processing

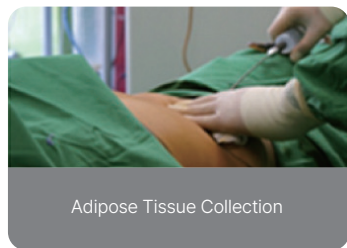
The collection procedure is simple and places minimal burden on the patient.

Adipose tissue is collected under local anesthesia without the need for sedation or general anesthesia. The procedure takes approximately 20 minutes.

Stem Cell Collection and Isolation Process

Patients can resume their daily activities after the procedure. No special precautions are generally required for adipose tissue collection; however, fasting is recommended for blood tests and other examinations.

Because the stem cells are stored for future use, adipose tissue needs to be collected only once, even if multiple treatments are received.



Adipose Tissue Collection



Transfer the adipose tissue into a sterile syringe and transport it to the cleanroom.



Transfer of Adipose Tissue into a Sterile Tube



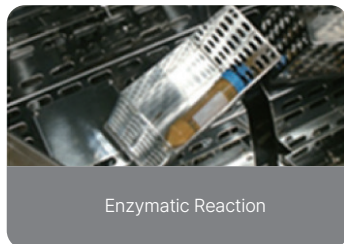
Adipose Tissue Washing



Centrifugation of Adipose Tissue



Enzymatic Treatment



Enzymatic Reaction



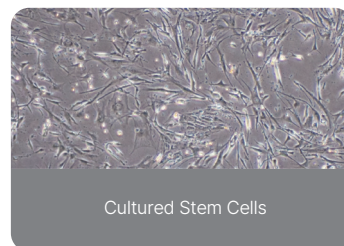
Separation of the Adipose Tissue and Stem Cell Layers



Stem Cell Isolation



Stem Cell Culture



Cultured Stem Cells

After cultivation, the stem cells undergo rigorous quality testing before being cryopreserved.

EHL BIO Quality Testing



- 01 | Mycoplasma Testing
- 02 | Adventitious Virus Testing
- 03 | Sterility Testing (Direct Inoculation Method)
- 04 | Cell Identity and Purity Testing
- 05 | Potency Testing
- 06 | Sterility Testing (Plate Method)
- 07 | Endotoxin Testing
- 08 | Cell Count Testing
- 09 | Cell Viability Testing
- 10 | Cell Morphology Assessment

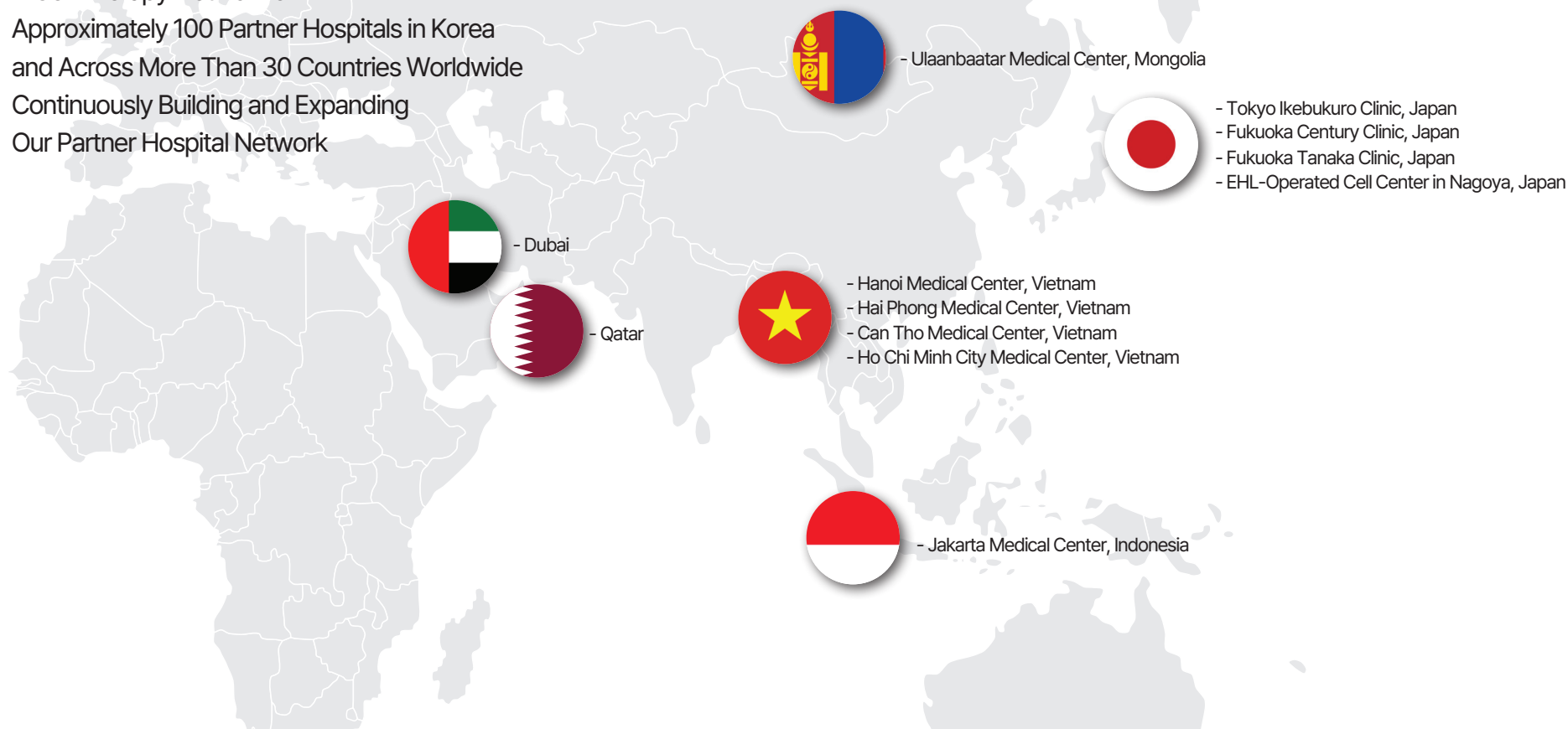
EHL's Vision Extends Across the World, and the World Is Turning Toward EHL.

EHL BIO is expanding beyond Korea into global markets, pursuing its ambitious vision of protecting the health of people around the world.



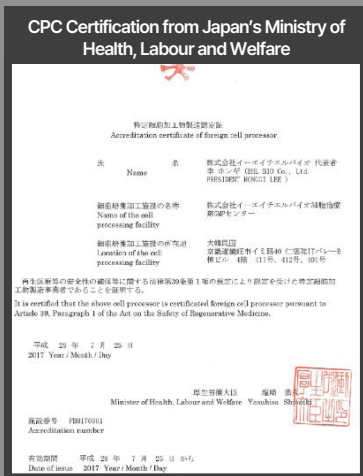
Together with Medical Professionals Worldwide, We Design a Healthier Future for You.

A Cell Therapy Network of
Approximately 100 Partner Hospitals in Korea
and Across More Than 30 Countries Worldwide
Continuously Building and Expanding
Our Partner Hospital Network

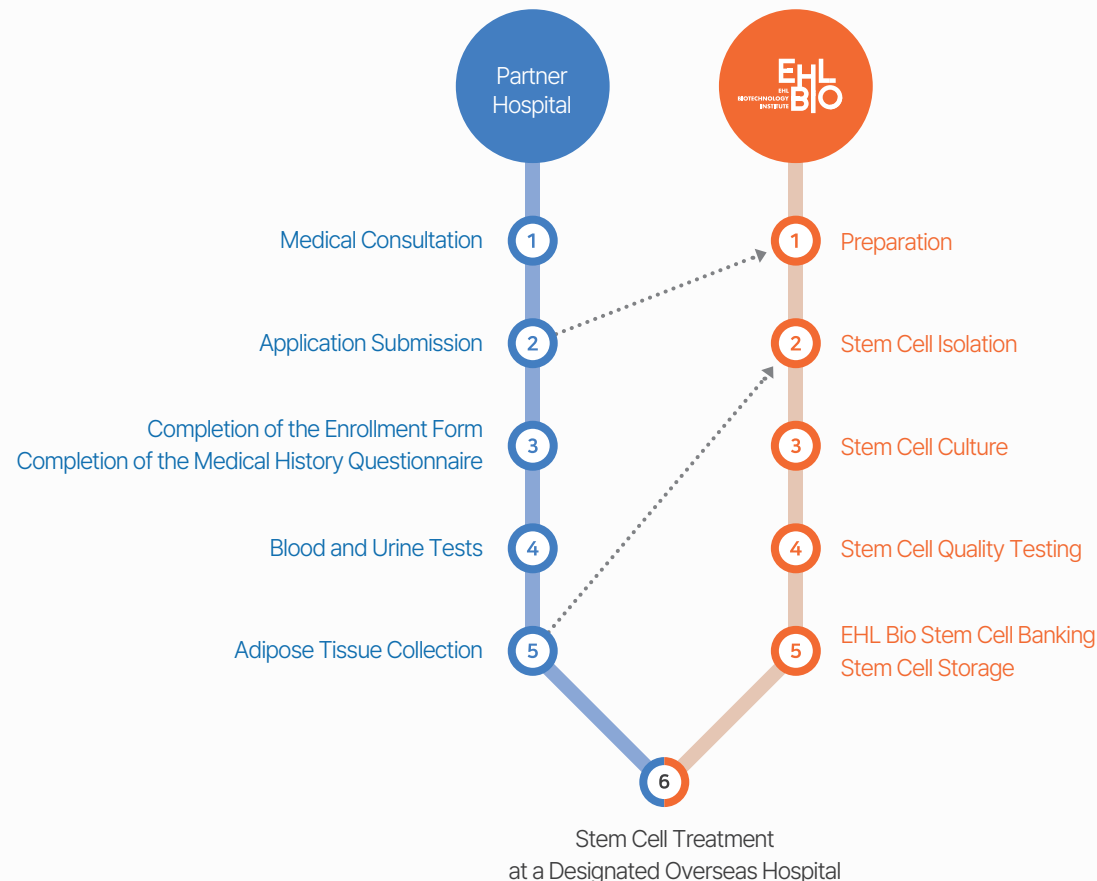


We are building a network of domestic and international business partnerships.

At affiliated hospitals in Korea and overseas, medical professionals with extensive expertise in stem cells and immune cells provide specialized consultations, adipose tissue collection, and blood collection. Customers can experience optimal, personalized medical services at conveniently located affiliated hospitals in Korea and abroad.



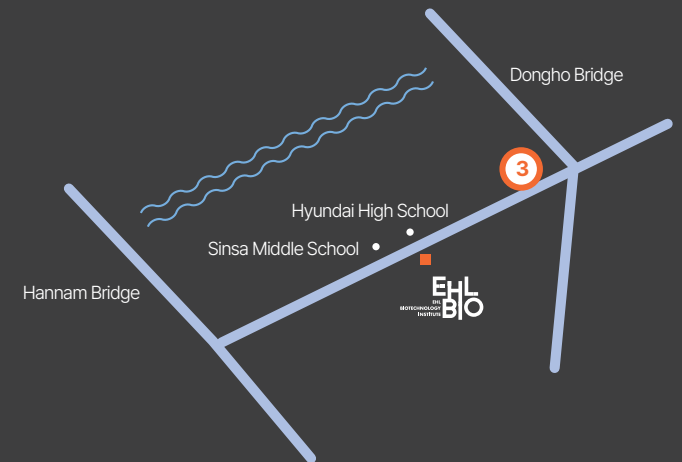
In July 2017, EHL BIO obtained a "License for the Manufacture of Class II Specified Processed Cells" from Japan's Ministry of Health, Labour and Welfare, authorizing the cultivation of autologous adipose-derived adult stem cells. This license enables medical institutions in Japan to provide treatments using EHL BIO's proprietary cell therapy technology.



Those who have
experienced illness know
how joyful and precious
everyday life can be.

EHL Bio
Protects You.



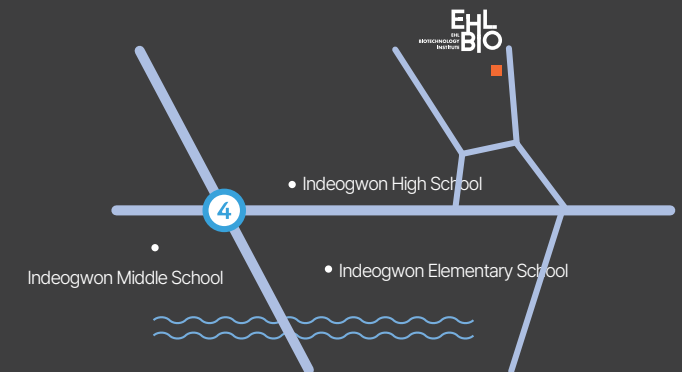


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