

# ANTI-AGING INTRAVENOUS THERAPY

Stem cells have the ability to renew themselves and become many other types of cells. They are a natural repair and regeneration system that allows us to recover from injury and disease.

Pluripotent stem cells are the most powerful stem cells in our body. There are two types, embryonic stem cells and adult pluripotent stem cells. Embryonic stem cells are controversial both for ethical and efficacy reasons and so far have not been effective as a remedy for most human diseases.

Adult pluripotent stem cells (APSCs) are small stem cells that are found in our bone marrow, blood and some of our organs and tissues. Types of APSCs are referred to as “Very Small Embryonic Like Cells (VSELs), Multi Lineage Differentiating Stress Enduring Cells (MUSEs), Marrow Isolated Adult Multilineage Inducible Cells (MIAMIs), StemBios Cells (SBs), and others. They are able to replicate and multiply freely and can become any other cell in the human body.

## ACTIVATING ADULT PLURIPOTENT STEM CELLS

APSCs are formed in our bone marrow and released into our blood stream. They circulate through our body in an inactive form. Activation of these unique stem cells occurs when our body faces extreme stress, such as low oxygen, low body temperature and significant injuries. Once active, APSCs will home in on areas of injury and degeneration to begin the repair and regeneration process.

During the procedure we collect blood samples, APSCs are separated from other cells using state of the art cell processing technology. Once isolated the APSCs are exposed to very cold temperatures to simulate hypothermia, which is known to activate APSCs. Finally, we combine the APSCs with powerful growth factors harvested from your own platelet cells from the same blood sample.

The active APSCs and growth factors can now be returned to the body through an intravenous injection (IV). Once in the blood stream, the APSCs will go to work, seeking out areas of inflammation and injury.

## SCIENCE OF ADULT PLURIPOTENT STEM CELLS

APSCs were first discovered in mice in 2005 and then in humans in 2006 by Professor Ratajczak at the University of Louisville, Kentucky. They are found in infants, children and adults rather than embryos. Since then many scientific studies have explored their potential to regenerate diseased organs and tissue as well as their ability to slow the aging process and onset of cancer.

## HERE ARE A FEW HIGHLIGHTS:

### 2016

- Researches at Hamadan University found that APSCs have the capability to migrate and localize in an injured spinal cord.
- Scientists from India recognized the potential for APSCs as an infertility treatment.
- Scientists from France discovered that APSCs persist throughout life in similar numbers, indicating that their role as a stem cell reserve for tissue repair is not diminished with age.

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### 2015

- Researchers from Iran discovered the potential for APSCs as a treatment for diabetes.
- Researchers from France found that APSCs can help recover from lack of blood supply in the legs through healing and rebuilding of the blood vessel wall.

### 2014

- Scientists from the University of Texas, Houston proposed that APSCs provide an alternative to embryonic stem cells for research purposes of human disease.
- Researchers from Korea found evidence that APSCs repaired brain tissue damage.

### 2013

- Researchers from the University of Michigan were able to use APSCs to create bone tissue in the skull.

### 2011

- Scientists at the University of Louisville identified APSCs for their potential to repair nerve tissue.
- Scientists at the University of Louisville found evidence that APSCs were able to repair heart tissue and improve heart function following a heart attack.

### 2010

- Scientists at the University of Louisville found evidence that APSCs can repair pancreatic tissue which could have an impact on diabetes treatment.

### 2009

- Researchers in Poland found evidence that APSCs are involved in repair of the retina of the eye.
- Scientists from Poland found that APSCs are released into the blood stream after a stroke as a potential repair mechanism.

### 2008

- Scientists from the University of Louisville realized that APSCs likely have the potential as an anti-aging treatment due to their known ability to repair and regenerate tissue.