

StemEnhance

Proven, Life-honoring Stem Cell Technology



What are stem cells?

Stem cells are primal cells found in all multi-cellular organisms. They retain the ability to *renew* themselves through the entire process of cell division, including division of the nucleus and the cytoplasm. Stem cells have the remarkable potential to *develop* into many different cell types in the body. Serving as a sort of *repair* system for the body, they can theoretically *divide without limit* to *replenish* other cells as long as the person or animal is still alive. When a stem cell divides, each new cell has the potential to either *remain* a stem cell or *become another type* of cell with a more specialized function, such as a muscle cell, a red blood cell, or a brain cell. Research in the human stem cell field grew out of findings by Canadian scientists Ernest A. McCulloch and James E. Till, in the 1960s. The three broad categories of mammalian stem cells are: *embryonic* stem cells, derived from blastocysts, *adult* stem cells, which are found in adult tissues, and *cord blood* stem cells, which are found in the umbilical cord.

Research on adult stem cells has recently generated a great deal of excitement. Scientists have found adult stem cells in many more tissues than they once thought possible. This finding has led scientists to ask whether adult stem cells could be used for transplants. In fact, adult blood forming stem cells from bone marrow have been used in transplants for 30 years. Certain kinds of adult stem cells seem to have the ability to differentiate into a number of different cell types, given the right conditions. If this differentiation of adult stem cells can be controlled in the laboratory, these cells may become the basis of therapies for many serious common diseases.

What are stem cell enhancers?

Recent scientific developments have demonstrated that stem cells, derived from the bone marrow, travel throughout the body, and act to *support optimal organ and tissue function*. Stem cell enhancers are not stem-cell products, they are products that support the natural role of adult stem cells in our body, as explained in the following paragraph.

What is StemEnhance?

StemEnhance is a patented blend of two botanical components extracted from **AFA** (*Aphanizomenon flos-aquae*), the first protein and the most ancient food on earth. These components are known to support the natural *release* (production) and *migration* (delivery) of the body's own stem cells. It is a one-of-a-kind, natural botanical extract that supports wellness by assisting your body in maintaining healthy stem cell physiology. This amazing breakthrough is the very first product on the market from the latest phytoceutical product category called "*stem cell enhancers*."

Why Would I need this product?

As you age, the number and quality of stem cells that circulate in your body gradually decrease, leaving your body more susceptible to injury and other age-related health challenges. Just as antioxidants are important to protect your cells from "free radical" damage, stem cell enhancers are equally important to support your stem cells in maintaining proper organ and tissue functioning in your body. You do not have to be suffering from a

debilitating injury or illness to benefit from millions of additional adult stem cells circulating throughout your body.

The following is a summary of a full-length, Triple-Blind, Randomized, Placebo-Controlled Study of the Effect of *StemEnhance* on Bone Marrow Stem Cell Mobilization. The full study report, with references, appeared in the ***Journal of Cardiovascular Revascularization Medicine***, Volume 8, Issue 3, Pages 189-202 (July 2007)

This study was conducted on human subjects to determine the effect of AFA (*Aphanizomenon flos-aquae*) extracts (***StemEnhance***) on the number of circulating stem cells.

A total of 15 healthy volunteers were selected using the following criteria for exclusion:

- * Under 20 or over 65 years of age
- * pregnancy
- * Severe asthma and allergies requiring daily medication
- * Any known chronic illness or previous/current venereal disease
- * Frequent recreational drug use
- * Impaired digestive function (including previous major gastrointestinal surgery).

Upon arrival, the volunteers were seated in quiet areas and instructed to remain quiet and inactive, comfortably sitting in a chair, for one hour. Immediately after drawing the baseline blood sample, a consumable was provided. Volunteers were fed one (1) gram of SE (*StemEnhance*), a blend of two AFA extracts, and a placebo (Ctl). The volunteers were instructed to remain quiet and inactive for the entire duration of the experiment. Blood samples were later drawn thirty (30), sixty (60) and one hundred and twenty (120) minutes after ingestion of the consumable.

At each time point, 5 ml of blood was drawn into *heparin*, widely used as an injectable anticoagulant with the highest negative charge density of any known, and 2 ml of blood was drawn into *EDTA*, a widely used acronym for the chemical compound, ethylenediamine tetraacetic acid. One sample was used to perform a CBC (complete blood count), while the other sample was prepared for *immunostaining*, a general term in biochemistry that applies to any use of an antibody-based method to detect a specific protein in a sample, and *flow cytometry*, a technique for counting, examining, and sorting microscopic particles suspended in a stream of fluid. Flow cytometry and data analysis were done blindly.

Results of the study showed that consumption of SE led to an increase in the number of circulating CD34+ cells. CD34+ cells are typically found in the umbilical cord and bone marrow as hematopoietic (blood forming) stem cells. Consumption of the placebo did not lead to any significant effect. Since the overall time for absorption of bioactive compounds, delivery to target areas, and the generation of a quantifiable physiological response may differ, depending on each volunteer's overall physiology, we calculated the maximum response of SE at any one point in time, within 60 minutes of consumption. We found a 24%, plus or minus 5%, increase in the number of circulating stem cells (median 27%). If we included data obtained during an earlier dose study performed in May 2005, the average maximum response raises to 30%, plus or minus 6%.

This study confirmed that SE (*StemEnhance*) is effective at supporting the release of stem cells from the bone marrow, thereby increasing the number of circulating CD34+ stem cells by up to 30%. The average number of circulating CD34+ cells at time 0 (outset of the study) was 0.12%. Assuming 5 ml of blood, an increase of 25% to 30% in the number of circulating CD34+ stem cells, as seen in this study, corresponds to approximately 3.5 million new circulating stem cells.

Although the concept of using the endogenous release of bone marrow stem cells to support optimal health is a novelty, enough data does exist to estimate the physiological relevance of putting into circulation an additional 3.5 million new stem cells. Based on various studies**

dating as early as 1993, one can estimate that one gram of *StemEnhance* can, potentially, lead to as many as a few billion *somatic* cells in target tissues, therefore the average increase of 25% to 30% obtained in this study is likely to have significant physiological relevance.

A **somatic cell** is generally taken to mean any cell forming the body of an organism. Every cell type in the mammalian body—apart from the sperm and ova (the cells from which they are made), and undifferentiated stem cells—is a somatic cell. Internal organs, skin, bones, blood, and connective tissue are all made up of somatic cells.

**Earlier studies referred to in this summary were published in *Blood Journal*, the journal of the American Society of Hematology, 1993, 1994; *Proceedings of the National Academy of Sciences*, 2001; *Pediatric Transplantation*, the Official Journal of the International Pediatric Transplant Association, 2003; *the European Heart Journal*, 2005, and *J Mol Cell Cardiol*, 2005.

Please visit my website, ultracellrepair.stemtechbiz.com, to learn more about this non-controversial, health-building stem-cell technology. Watch the video, and discover your body's own ability to renew itself. For more information or to place an order for *StemEnhance*, contact Lyle at ultrahealth@cs.com, or call TOLL-FREE, 800-829-9913.