

### Company Profile

Histogen, Inc., launched in 2007, seeks to redefine regenerative medicine by developing a series of high value products that do not contain embryonic stem cells or animal components. The purpose and focus of the company is on the research, development, manufacturing and sales of products derived from the company's core technology.

Through Histogen's proprietary technology process that simulates the embryonic environment, newborn fibroblasts naturally produce the embryonic-like proteins and growth factors from which the Company has developed its rich product portfolio. In this environment, a non-soluble extracellular matrix material, called ExCeltrix, is produced which is rich in collagens and other valuable components characteristic known to support rapid growth and scarless healing. The fibroblasts also produce a variety of naturally-secreted soluble biologics with therapeutic potential, which are stabilized and active in a biocompatible liquid formula.

#### Mission

To redefine regenerative medicine by developing a series of high value products that do not contain embryonic stem cells or animal components.

These novel products address unmet research and therapeutic needs with immediate to mid and long term solutions.

#### Why Now? Why Histogen?

ReGenica's components have recently been shown to be critical for new hair follicle formation

The field of stem cell research is rapidly expanding

Histogen has a foundation of proven products

### Technology

Through the Company's proprietary bioreactor technology, Histogen is uniquely capable of simulating the embryonic environment, including hypoxic conditions of 1-5% oxygen, creating a human extracellular matrix with a wide distribution of embryonic proteins unmatched by adult ECM. These culture conditions have been optimized without the need for a fetal bovine serum additive in the final product. Under these hypoxic culture conditions, over 5,000 genes are differentially expressed as compared to cells grown under traditional tissue culture conditions.

Among the embryonic-like proteins and growth factors produced through this technology process, Histogen's technology the first to create highly active, non-recombinant, human-derived Wnt proteins and other growth factors in a controlled manufacturing system. These Wnt proteins, particularly Wnt 7a, and natural cofactors have been tied to hair growth and new follicle generation, in addition to tissue formation and regeneration.

### Products

The product pipeline consists of short-term products, that have no to little regulatory hurdles and mid to long-term products, which require clinical trials. Histogen's manufacturing process creates the following products:

- ExCeltrix – Human Extracellular Matrix
- ReGenica liquid complex for skincare
- Hair Stimulating Complex (HSC)
- Combination products
- BioNuesis Human Stem Cell Culturing Kits

### Hair Stimulating Complex (HSC)

Histogen's Hair Stimulating Complex (HSC) is a proprietary formulation of naturally secreted embryonic proteins and growth factors. HSC contains the first naturally stabilized, bioactive solution of Wnt proteins and their cofactors, which have been implicated in the induction of new hair follicle formation and growth.

Histogen has completed a preliminary human clinical trial of HSC as an injectable for hair regrowth. Within this trial, no adverse events were seen in any of the trial subjects, and efficacy results surpassed those of all other currently available hair growth products:

84.6% of the patients receiving one injection of Histogen's serum-free HSC showed an increase in terminal hair 12 weeks post-injection, with a statistically significant ( $p < 0.05$ ) increase in the number of terminal hairs, cumulative hair thickness density and hair thickness mean.

Plans for future clinical trials of HSC for hair regrowth are currently underway, with a pivotal Pan-Asian clinical trial scheduled to begin in 2010.



Redefining Regenerative Medicine

# Corporate Fact Sheet

March 2010

## Wnt Proteins

During normal embryonic growth Wnt proteins are secreted, signaling molecules that regulate cell-to-cell interactions.

Wnts control how stem cells divide, they regulate many of the decisions that cells make as they become a specific tissue, and they are critical in the regeneration and renewal of adult tissues.

## Value Drivers

Broad range of markets, which are underserved and expected to grow

Rich product portfolio

Final products without embryonic stem cells or animal components

For more information, visit our website: [www.histogeninc.com](http://www.histogeninc.com)

## Pipeline

Product	Market Area	Research	Pre-clinical	Phase 1	Phase 2	Phase 3	Market
<b>Short-Term</b>							
Cell Culture Coating (BioNuesis)	Research Tools						
Tissue Regeneration Patches (ExCeltrix)	510K						
Cosmeceutical – Skin & Hair care applications (ReGenica)	Cosmetics						
<b>Mid-Term</b>							
Coatings for Tissue Ingrowth (ExCeltrix)	PMA						
<b>Long-Term</b>							
Hair Regrowth (ReGenica)	Biologic/ NDA						
Treatment for Ulcerative Colitis & Crohn's Disease	Biologic/ NDA						

## Management Team

- Gail K. Naughton, Ph.D. Chief Executive Officer
- Jonathan Mansbridge, Ph.D. Chief Scientific Officer
- Mark Baumgartner Director of Engineering

## Board of Directors

- Gail Naughton, Ph.D., CEO, Chairman
- Stephen Badylak, M.D., Ph.D., D.V.M. - Director of the Center for Preclinical Testing, McGowan Institute for Regenerative Medicine, University of Pittsburgh
- Susan Baxter, Ph.D. - Executive Director, CSUPERB
- Stephen Chang, Ph.D. - CSO, Stemgent, Inc.
- Leonard Lavin - Founder and Chairman Emeritus, Alberto-Culver Company

## Scientific Advisory Board

- Stephen Badylak, M.D., Ph.D., D.V.M., Chair
- Dale Devore, Ph.D. - Leading expert in Collagen research and development of natural polymer-based medical implants
- Jeanne Loring, Ph.D. - Director, Center for Regenerative Medicine, Scripps Research Institute
- Craig Ziering, D.O., FAOCD – Hair Transplant Surgeon and Founder of Ziering Medical