

PROVISIONAL APPLICATION FOR PATENT

INVENTION TITLE

A method and apparatus for producing hair growth stimulation using bioelectric energy, topical compositions, stem cell/growth factor micro infusions and combinations thereof. By using bioelectric signaling resulting from specific protein expressions and their cellular responses to exposure to specific micro voltages.

BACKGROUND OF THE INVENTION

Problem Solved: Many people lose hair as they age. Thin hair causes loss of self-esteem. Other methods and devices at best increase hair coverage by 10%.

Our device controls release of **SDF-1** a stem cell homing factor as well as **IGF-1, HGF, EGF, Follistatin, Tropoelastin, eNOS and VEGF** as well as micro infusion delivery of a **15 component hair regeneration cocktail** which includes nutrient hydrogel, thus providing all the supporting element to grow a full head of hair.

DETAILED DESCRIPTION OF THE INVENTION

As stated above, many people lose hair as they age. Thin hair causes loss of self-esteem. The invention claimed here solves this problem.

Our devices utilizes specific bioelectric signals to control release of 10 key hair regeneration proteins and for severe cases is combined with a stem cell/growth factor micro infusion pump to regenerate a full head of hair.

The claimed invention differs from what currently exists. No other product delivers a full complete combination of growth factors and stem cells necessary for complete and full hair regeneration. This invention is an improvement on what currently exists. No other product delivers a full complete combination of growth factors and stem cells necessary for complete and full hair regeneration.

Prior art fails to address all the mechanisms necessary for complete hair regeneration. Most current treatments have nowhere near the volume of active agent necessary to regenerate a full head of thick hair.

Our device controls release of SDF-1 a stem cell homing factor as well as IGF-1, HGF, EGF, Follistatin, Tropoelastin, eNOS and VEGF as well as micro infusion delivery of a 15 component hair regeneration cocktail which includes nutrient hydrogel, thus providing all the supporting element to grow a full head of hair. Also, it can produce Hair regeneration. Hair removal. Skin regeneration.

The Version of The Invention Discussed Here Includes:

- Brain Electroacupuncture Cap
- Micro regeneration stimulator and connecting leads
- Micro infusion pump
- Bioelectric signal programs (SDF-1, IGF-1, HGF, EGF, Follistatin, Tropoelastin, eNOS, VEGF, Activin A + B)
- Hair regeneration cocktail 15 component composition
- Bioelectric signal for cell proliferation and differentiation control

Relationship Between The Components:

Brain electroacupuncture cap (1) is placed on head of patient. (2) micro regeneration stimulator is connected to brain cap (1). Micro infusion pump (3) is connected to brain electroacupuncture cap. Micro stimulator runs through a program releases 10 specific proteins for specific purposes all of which work together for complete hair regeneration. In severe cases a micro pump is filled with the HC-15 fifteen component hair regeneration cocktail comprising three types of stem cells, growth factors, nutrient hydrogel, scalp matrix and Micro RNAS as well as known topical solutions for hair regeneration.

Technical Claim Specifications:

- **eNOS Signal:** Alternating high-frequency (HF) and medium-frequency signals (MF) – Symmetric, biphasic, trapezoid pulses, with 400- μ s pulse duration and 1.5/1-s ramp-up/ramp-down duration, respectively. HF consisted of 75 Hz pulses with 6 s on–21 s off for 15 minutes. MF consisted of 45 Hz pulses with 5 s on–12 s off for 15 minutes. Followed by stimulation duration set as 20 min for both 1 Hz and 20 Hz stimulations.
- **Activin A Signal:** 6mv at 150 HZ Monophasic square wave pulse 0.1 ms in duration current of 15 mA for 15 minutes.

HOW THE INVENTION WORKS

The micro hair regeneration stimulator may be used as a standalone. Results are accelerated and enhanced with the addition of the micro infusion pump that is re-filled daily, weekly or monthly.

Sequence Order: VEGF, eNOS, SDF-1, Proliferation, VEGF, eNOS, HGF, IGF-1, Follistatin, Differentiation, Tropoelastin, Follistatin, IGF-1, HGF, SDF-1 and repeated. (Methods include controlled expression of FGF and EGF).

HOW TO MAKE THE INVENTION

The brain cap is adapted from EEG monitoring caps and electro acupuncture needles. The micro stimulator is obtained from an OEM supplier of heart pacemakers. The software is programmed into the stimulator with a standard programmer. The micro pump is obtained from an OEM supplier that makes pumps for drug infusion.

The micro regeneration stimulator is essential. The brain cap is optional. You can use tape electrodes or standard electro acupuncture needles instead OR the signals can be transmitted by a wireless light like device. The micro infusion pump is optional for severe cases or for accelerating results.

SPECIFIC BIOELECTRIC SIGNALS

- **Stem Cell Differentiation (Leonhardt Signals):** 200 picoamps for 10 seconds for 1 hr + amplitude of 5 volts and width of 0.5 milliseconds for 1 hr.
- **Follistatin (Genovese + Leonhardt):** 10V @ 50 HZ and 100 HZ for 12 hrs each.
- **HGF (Genovese + Leonhardt):** 3.5V stimulation in 10 second bursts, 1 burst every 30 seconds @ frequency 50 HZ.
- **IGF-1 (Genovese + Leonhardt):** 3mv with frequency of 22 Hz, current of 1 mA for 15 minutes and 3ma for 15 minutes.
- **Tropoelastin (Genovese + Leonhardt):** 0.06 μ V with 50Z alternating electrical field and current of 1ma for 15 minutes and 3ma for 15 minutes.
- **RANKL/NF- κ B (Genovese + Leonhardt + Marchetto):** 3MV at 2/100 Hz alternating frequency with current of 3ma followed by 15 Hz, 1 Gauss EM field, consisting of 5-millisecond bursts with 5-microsecond pulses followed by 200- μ s pulse duration @ 30 Hz and current amplitude of 140 mA.
- **VEGF:** 0.1V applied at a frequency of 50 Hz.
- **SDF-1 (Leonhardt Signal):** 30 pulses per second with a voltage of 3.5 mV, successively alternating currents of 700 to 1500 picoamps, pulse duration 40 pulses/s, pulse width 100 μ s, frequency 100 Hz.
- **Stem Cell Proliferation (Leonhardt-Chachques):** 15 mV and current of 500 picoamps at 70 pulses per minute for 3 hrs + 20 pulses per minute, pulse amplitude 2.5-6 volts, pulse width 0.2-0.7 milliseconds for 3 hrs.

HOW TO USE THE INVENTION

The brain cap is connected to the stimulator and pump and treatment is 40 minutes 3 times a week for 8 to 36 weeks as needed.

ABSTRACT

A method and apparatus for producing hair growth stimulation using bioelectric energy, topical compositions, stem cell/growth factor micro infusions and combinations thereof. By using bioelectric signaling resulting from specific protein expressions and their cellular responses to exposure to specific micro voltages. Our device controls release of SDF-1 a stem cell homing factor as well as IGF-1, HGF, EGF, Follistatin, Tropoelastin, eNOS and VEGF as well as micro infusion delivery of a 15 component hair regeneration cocktail which includes nutrient hydrogel, thus providing all the supporting element to grow a full head of hair.