# BioLetDAge CS-Line

BioLetDAge CS System

BioLetDAge CS-Line is composed of specific combinatorial formulations of Regeron's proprietary ingredients to meet diverse skincare needs.

Brightening	CS-B
Renewal	CS-R
Anti-wrinkle	CS-W
Anti-irritation	CS-S
Anti-blemishes	CS-A
Hair care	CS-T



### Patents by Regeron Inc.

regarding methods and uses of the hGH-nanoliposome technology

- Composition comprising human growth hormone for prevention of hairloss and promotion of hair-growth Korea 2007
- Composition for improving skin conditions comprising human growth hormone as an active ingredient – Korea 2010 / Russia. 2010 / Canada 2011
- Preparation of nanoliposome-encapsulating proteins and protein encapsulated nanoliposome – Korea 2009 / U.S. 2010 / Japan 2012

# Awakening Skin Stem Cells

With human growth horm

Experience rejuvenation of your skin!

# REGERON

103 BIO-2, Hi-Tech Venture Town, 32 Soyanggang-Ro, Chuncheon, Kangwon-Do 200-161, South Korea T82.33.258.6263 F82.33.258.6264 www.regeron.com

# BioLet Age CS



Efficacy 효능

# **Awakening Skin Stem Cells**

Stem cells replenish worn-out cells and regenerate damaged tissues. hGH can stimulate and activate those stem cells of the skin. BLDA supplies hGH to the skin thereby turning dull wrinkled aging skin into fresh firmer younger-looking one.

피부줄기세포는 노화되거나 손상된 피부조직을 재생하는 능력을 가졌는데, hGH는 이런 피부 줄기세포를 자극 활성화 시키는 능력이 있습니다. BLDA는 생기없이 주름진 노화되는 피부에 hGH를 공급하여 젊고 탄력있는 피부로 되돌립니다.



Technology 기술력

### **Skin-Only Delivery**

hGH secretion peaks in the teens, abruptly drops in the twenties, and gradually decreases further thereafter. In spite of hGH's well-known anti-aging functions, its use was long limited only as prescription injectables until Regeron developed the first cosmetic hGH in the world.

hGH(성장호르몬)는 청소년기 전후하여 왕성하게 분비되다 이후 급격히 감소한 후 점차 더욱 줄어듭니다. 입증된 노화개선 효능에도 불구하고 오랜 기간 주사제 의약품으로만 사용되던 hGH를 리제론에서 세계 최초로 피부개선 화장품용도로 다시 개발하였습니다.



# Safety 안전성

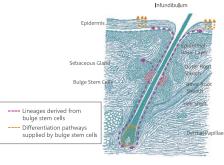
### **Skin-Only Effects**

- 1. hGH acts only on the surface of the skin without getting into the blood.
- 2. hGH is completely biodegradable in the skin.
- 3. hGH is a most natural ingredient to human skin.
- 4. Though a cosmetics, each BLDA vial contains no more than 1/10 of the global injection limit of endotoxin set for an adult human
- 1. hGH(성장호르몬)는 인체의 피부세포에만 작용하며 혈액 등과 같은 우리 몸 내부로는 침투하지 않습니다.
- 2. hGH는 피부에서 완전히 분해됩니다.
- 3. hGH는 피부에 가장 친화적인 자연성분입니다.
- 4. 피부용 화장품이지만, BLDA 한 병에 든 endotoxin의 총량은 어른에게 주사할 수 있는 허용치의 1/10 이하입니다.

# **Technology** (DDS System)



We developed a delivery technology that made it possible for sh-polypeptides to reach the skin stem cells.



Hair Follicle Matrix

Regeron's unique sh-polypeptide- ingredients used in "BioLetDAge CS" stimulate the skin stem cells of the hair follicle.

Progenitors of the skin stem cells migrate toward all over the hair follicle surface (red arrows) and differentiate to become various types of cells including keratinocytes and hair matrix cells.







Efficient delivery of nanoliposome-encapsulated sh-polypeptides into hair follicles.

BioLetDAge-CS 제품군에 사용된 리제론 만의 독특한 성장인자들은 피부의 모낭을 통해 표피 원천세포를 자극하며, 이를 통해 활성화된 전구 세포들은 모낭 전체로 퍼져 이동하면서 표피를 구성하는 다양한 조직과 기관의 생명력을 항상 사람!!

녹색형광 표지자를 이용하여 핵심원료 중 하나인 hGH가 나노리포좀에 싸여 원천세포대까지 전달되는 것을 확인하는 실험입니다.

### Key Ingredients

### sh-Polypeptide-7 (INCI)

Our biosynthetic ingredient sh-Polypeptide-7 is the world-first cosmetic hGH with the patented cosmetic function for improving diverse skin conditions. Regeron has demonstrated that sh-Polypeptide-7 has multi-faceted effects on general skincare needs including anti-UV damages, anti-blemishes, and anti-irritation.

#### sh-Polypeptide-28 (INCI)

Cosmetic Prolactin (sh-Polyeptide-28) is another world-first ingredient of ours with anti-aging functions and patented Clairesome-encapsulation technology. Regeron has proven that sh-Polypeptide-28 confers anti-wrinkle effects by conducting a clinical test in a certified institution.

#### sh-Polypeptide-40 (INCI)

Cosmetic Placental Lactogen (sh-Polyeptide-40) is another world-first ingredient of ours with anti-irritation effects on atopic as well as sensitive skin Regeron has also proven its skin benefits through a clinical test.

#### sh-Polypeptide-71 (INCI)

Proprietary VIP(vasoactive intestinal peptide)-based ingredient with proposed firming and revitalizing effects. VIP (sh-Polypeptide-71) stimulates proliferation of cultured human keratinocytes in addition to reinforcing EGF effects on them. Regeron has developed synthetic VIP as a cosmetic ingredient for the first time in the world.

#### sh-Oligopeptide-1 (INCI)

Popular epidermal growth factor(EGF)-based ingredient for general skincare needs.

# Mechanism

## Action Mechanism of GF(Growth Factor) on the skin

Nanoliposome-encapsulated GF enters the skin.

GF released near stem cell niche.

모공 내의 hGH가 리포좀으로부터 방출

Released GF activates skin stem cells.

방출된 hGH가 모낭 내 원천세포를 활성화

Activated skin stem cells migrate and differentiate into various types of skin cells.

Recover the natural regeneration power of the younger skin.

젊은 피부 본래의 자연치유력 회복