

# News Release



## **New active ingredient Dermagenist™ harnesses BASF's findings on epigenetics to revitalize fibroblasts**

- **BASF establishes interdisciplinary innovation platform on epigenetics**
- **Dermagenist™: first active ingredient to reverse methylation in fibroblasts**

**Paris, France – January 10, 2017.** To further explore the field of epigenetics, BASF researchers have joined forces and established an interdisciplinary innovation platform. Together with experts from public and private research institutions they want to explore how changes to our genes caused by the chronological aging process or environmental factors can be mapped and precisely controlled. In the coming years, BASF intends to develop and market several active ingredients for cosmetic products that harness the innovation platform's findings on epigenetics. At this year's Cosmetagora, [Dermagenist™](#) will lead the way: BASF's new launch is the first active ingredient that re-activates fibroblasts by protecting them from epigenetic modifications and by stimulating their vitality.

### **Epigenetics helps understand how lifestyle influences skin conditions**

"Our goal is to understand how individual lifestyles influence the conditions and needs of human skin, and to develop ingredients that are capable of reprogramming our skin cells," said David Herault, Head of Global Research and Development for Bio-Actives. "To achieve this, epigenetics is our strongest ally. It is the key to understanding gene modulation and stimulating the activity of genes that have an influence on the longevity of the skin."

January 10, 2017  
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## **Dormant fibroblasts lead to a lack of collagen**

The fibroblast is one of the most important skin cells. Protected within the fibroblast's nucleus, lies the genetic makeup that dictates the production of key elements of the dermis for a continuous renewal of the skin. However, epigenetic modifications and the aging process alter the fibroblast's functionalities. Their metabolic capacity and strength are reduced. They lose their vitality and contractility. This leads to a rarefaction of collagen and a loss of dermal density: The skin loses its tonicity, elasticity and firmness. First signs of aging appear. Their cytoskeleton, which is largely formed by actin fibers, becomes weak. "Fibroblasts strength declines as well as their ability to adhere to the surrounding matrix. Once they've declined, they are no longer able to play their role and secrete extra cellular matrix components like collagen", explained Sabine Pain, R&D Project Manager.

## **Dermagenist re-activates fibroblasts**

Based on these observations, BASF teams created an active ingredient that can literally wake up the fibroblast and stimulate it. Dermagenist is an extract from *origanum majorana* leaves. It stimulates actin synthesis in fibroblasts, and thus helps the cytoskeleton to remain strong: the fibroblast regains its contractility, retrieves its strong adhesion and resumes interactions with the surrounding dermal matrix. "But that's not all, due to many aggressions caused by our environment and lifestyle, the fibroblast is also attacked at an epigenetic level – in its very DNA, blocking it from ordering the production of key dermal components", Pain added. Although the fibroblasts' genetic code itself is not changed and the production order is still valid, some genes are no longer able to be read and expressed: This process is called DNA methylation. "We wanted to find ways to influence the epigenome so as to slow the ageing process of the skin through environmental influences and lifestyle. With Dermagenist, we are now able to maintain the fibroblasts' capacity for self-renewal and stimulate their activity", said Pain. Dermagenist inhibits the methylation of neutralized genes and

reactivates gene expression of extra cellular components like collagen. By inhibiting DNA methylation, the active ingredient restores the optimum fibroblast machinery. Efficient at night as well as during the day, production, formation and assembly of collagen is boosted for an improved neo-collagen network. As a result, skin density is improved by 18 percent and skin firmness by 15 percent.

#### **About BASF's Care Chemicals division**

The BASF division Care Chemicals offers a broad range of ingredients for personal care, hygiene, home care, industrial & institutional cleaning, and technical applications. We are the global leading supplier for the cosmetics industry as well as the detergents and cleaners industry and support our customers with innovative and sustainable products, solutions and concepts. The division's high-performance product portfolio includes surfactants, emulsifiers, polymers, emollients, chelating agents, cosmetic active ingredients and UV filters. Superabsorbent polymers developed for the full spectrum of hygiene applications complete the range. We have production and development sites in all regions and are expanding our presence in emerging markets. Further information is available on the Internet at [www.care-chemicals.basf.com](http://www.care-chemicals.basf.com).

#### **About BASF**

At BASF, we create chemistry for a sustainable future. We combine economic success with environmental protection and social responsibility. The approximately 112,000 employees in the BASF Group work on contributing to the success of our customers in nearly all sectors and almost every country in the world. Our portfolio is organized into five segments: Chemicals, Performance Products, Functional Materials & Solutions, Agricultural Solutions and Oil & Gas. BASF generated sales of more than €70 billion in 2015. BASF shares are traded on the stock exchanges in Frankfurt (BAS), London (BFA) and Zurich (BAS). Further information at [www.basf.com](http://www.basf.com).