



## **DBV Technologies and CEA conclude a scientific cooperation to investigate epigenetic modulation in epicutaneous immunotherapy**

**BAGNEUX, France, April 9, 2014** - DBV Technologies (Euronext: DBV – ISIN: FR0010417345), creator of Viaskin®, a new paradigm for the treatment of allergies, announced today a research collaboration agreement with the French National Genotyping Center (CNG) at the French Alternative energies and atomic energy commission (CEA). Dr. J. Tost's team at CNG uses novel technologies to analyze gene regulation and epigenetics, specifically DNA methylation. DBV and CEA/CNG will collaborate to characterize the epigenetic modifications induced by DBV's proprietary epicutaneous immunotherapy (EPIT™). The overall goal of the research is to understand the treatment maintenance effect over time and the predictive value of response to EPIT™ treatment using Viaskin.

Preliminary experiments carried out by DBV have already demonstrated that EPIT may induce a modification of DNA methylation status. This was presented during the recent meeting of the American Academy of Allergy, Asthma & Immunology (AAAAI) in March 2014 and will be presented at the European Academy of Allergy and Clinical Immunology (EAACI) in June 2014.

**Dr. Jörg Tost**, CEA, Head of Laboratory for Epigenetics and Environment (LEE), the National Genotyping Center, Genomics Institute/CEA, said, *"The partnership with DBV technologies is very exciting as it is an application of DNA methylation analysis in the context of a pharmaceutical product, a field which still tends to ignore the epigenetic side of gene regulation. The project opens new ventures for the laboratory to better understand the modulation of the immune system through epigenetic modifications. This has become one of the key areas of my laboratory. We are extremely pleased to see that DNA methylation analysis, which we have been pursuing for the last 10 years is now used to understand the mechanism of action of pharmaceutically active compounds."*

**Dr. Pierre-Henri Benhamou**, Chairman and CEO of DBV Technologies, said, *"The partnership with CEA/IG/CNG represented by Dr. Tost's research team will enable us to better describe the complex and powerful cellular mechanisms and epigenetic modulations induced by EPIT™, an immuno-modulating agent. As we observed from the early experiments, EPIT appears to be the only method of specific immunotherapy able to confer durable protection in case of accidental exposure to allergens. We believe that this is probably due to the ability to influence the immune response to allergens at the genomic level. The aim of this collaboration will be to confirm these first results and extend the research to different allergies in animal models and patients."*

### **Viaskin Peanut: the first application of the Viaskin method, offering hope for millions of people allergic to peanuts**

In the US 1.1% of the population (i.e., about 3 million people) are allergic to peanuts, causing 100 to 150 deaths per year. This allergy affects both adults and children and has been estimated to affect 1.8% of young children in the United Kingdom. The prevalence of peanut allergy in other Western countries (e.g. Canada, France, and Spain) has been studied by many researchers and ranges from 0.9% to 1.5%. It is a persistent allergy in the great majority of cases. It is also the most severe of all common food allergies (e.g. milk and eggs) and can be life-threatening to allergic children.

### **About CEA**

The French Alternative Energies and Atomic Energy Commission (CEA) is a public technological research organization working in four main areas: low-carbon energies, defense and security, information technologies and health technologies, and large research facilities. Building on excellence in fundamental research and on recognized expertise, the CEA takes part in organizing cooperation projects with a wide range of academic and industrial partners. With its 16,000 researchers and employees, it is a major player in European research and is also expanding its international presence.

### **About Dr. Jörg Tost**

Jörg Tost heads the Laboratory for Epigenetics and Environment at the National Genotyping Center (CNG). The laboratory is involved in the development and application of technologies to analyse DNA methylation, miRNAs and other epigenetic modifications quantitatively at high resolution at target loci and genome-wide using state-of-the-art sequencing technologies as well as the development of bioinformatic tools for the processing of such data. While initially focusing on the analysis of DNA methylation patterns implicated in tumorigenesis, the laboratory has extended the analysis to immune-related and neurodegenerative diseases and in particular how environmental exposure influences epigenetic profiles. Jörg Tost is author or co-author of 77 publications of which 65 have appeared in



Medline-listed journals, and is the editor of a book entitled "Epigenetics" (Horizon Scientific Press, 2008) and the 2nd Edition of « DNA methylation protocols » in the Methods of Molecular Biology series (2009) and senior editor of the journal "Epigenomics".

#### **About DBV Technologies**

DBV Technologies is opening up a decisive new approach to the treatment of allergy – a major public health issue that is constantly increasing in prevalence. Food allergies represent a true handicap in everyday life for millions of people and thus constitute a major unmet medical need. DBV Technologies has developed a unique, proprietary, worldwide-patented technology for administering an allergen to intact skin and avoiding massive transfer to the blood. The Viaskin® technology combines efficacy and safety as part of a treatment that seeks to improve the patient's tolerability of peanut and thus considerably lower the risk of a systemic, allergic reaction in the event of accidental exposure to the allergen. The company's significant development program has taken this revolutionary method through to the industrial stage in Europe, initially. The product's clinically proven safety of use enables the application of effective desensitization techniques (the efficacy of which is acknowledged worldwide) in the most severe forms of the allergy. DBV Technologies is focusing on food allergies (milk and peanut) for which there are currently no effective treatments. It has developed two products: Viaskin® Peanut and Viaskin® Milk. The clinical development program for Viaskin® Peanut has received Fast Track designation from the US Food and Drug Administration. The company will subsequently develop a Viaskin® patch for young children with house dust mite allergy – a true public health issue because this pathology is one of the main risk factors for childhood asthma. DBV Technologies shares are traded on segment C of Euronext Paris (Ticker: DBV, ISIN code: FR0010417345).

For more information on DBV Technologies, please visit our website: [www.dbv-technologies.com](http://www.dbv-technologies.com)

CAUTION: Viaskin® is not approved for sale in the USA.

#### **Forward Looking Statement**

The forward-looking statements, objectives and targets contained herein are based on the Company's management strategy, current views and assumptions. Such statements involve known and unknown risks and uncertainties that may cause actual results, performance or events to differ materially from those anticipated herein. Furthermore, the Research and Development process involves several stages each of which involve the substantial risk that the Company may fail to achieve its objectives and be forced to abandon its efforts with regards to a product in which it has invested significant sums. Therefore, the Company cannot be certain that favorable results obtained during pre-clinical trials will be confirmed subsequently during clinical trials, or that the results of clinical trials will be sufficient to demonstrate the safe and effective nature of the product concerned. DBV technologies' business is subject to the risk factors outlined in its registration documents filed with the French Autorité des Marchés Financiers.

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