

## **The Danone International Prize for Nutrition, awarded by the Danone Institutes: supporting research since 1997**

**Every two years, the *Danone International Prize for Nutrition* is awarded to research scientists for their work. In addition to the international stature of the reward, which is currently recognised as one of the most prestigious in the nutrition field, the award carries prize money of 120,000 Euros allowing teams to continue their research. Below are testimonials of two previous prize winners, Prof. David Barker (University of Southampton, UK, prize winner 2005) and Prof. Jeffrey Friedman (Rockefeller University, New York, USA, prize winner 2007).**

Every two years since 1997, the Danone Institute International, a non-profit organisation, has awarded the *Danone International Prize for Nutrition* to research scientists or research teams carrying out noteworthy studies in the field of human nutrition. This prize is awarded for innovative concepts and studies expanding the barriers of nutrition science, whether through fundamental or applied research. The candidate selection procedure, based on that used for the Nobel Prize, is rigorous, objective and transparent.

The *Danone International Prize for Nutrition* committee initially brings together a “nomination college” comprising several hundred representatives of leading institutions to promote nutritional research worldwide. Each member of the committee is asked to propose the election of one or two research scientist scientists (or research teams). An independent international jury comprising eight renowned scientists then chooses the prize winner, who will receive 120 000 Euros. “The *Danone International Prize for Nutrition*, with its 120,000 Euro cash award, also provides a formidable stimulus for the prize winners elected every two years since 1997,” indicated Prof. Serrano Rios, President of the Danone Institute International and of the Spanish Danone Institute. “In my view, it is nothing less than the equivalent of a Nobel Prize for nutrition.”

## Pr David Barker interview



**Prof. David Barker (University of Southampton, UK)**

**Winner of the 2005 *Danone International Prize for Nutrition***

**Prof. David Barker, you were awarded the 2005 *Danone International Prize for Nutrition* for your research work. Could you tell us a few words about your main discoveries?**

Twenty years ago I showed for the first time that people who had a low birth weight were at greater risk of developing coronary heart disease, hypertension\*, stroke\* and diabetes\*. This is now widely accepted. It has led to a new understanding that chronic adult diseases are "programmed" by malnutrition in the womb. Malnutrition during development is known to cause life-long changes in the body's structure and physiology. In the Western world many babies are malnourished because their mothers

have unbalanced and monotonous diets, or because their mothers are either overweight or excessively thin. In the Third World many babies are malnourished because their mothers were chronically undernourished when they were young.

**As a research scientist, what did you gain from the *Danone Nutrition Prize for International*?**

I used the 120 000 € donation to establish a new research group in the University of Southampton whose aim is to determine the barriers to good food choices among young women. The award of this prize was followed by invitations to lecture around the world and this has helped to disseminate the results of my research throughout the nutrition community.

## Pr Jeffrey Friedman interview



**Prof. Jeffrey Friedman (Howard Hughes Medical Institute and Rockefeller University, USA) is the winner of the 2007 *Danone International Nutrition Prize***

**Prof. Jeffrey Friedman, you were awarded the 2007 *Danone International Prize for Nutrition* for your research work. Could you tell us a few words about your main discoveries?**

My laboratory identified a new adipocyte hormone that we decided to name leptin\*. This discovery has led to the elucidation of a robust physiologic system that maintains fat stores at a relatively constant level. Leptin is a peptide hormone secreted by adipose tissue\* in proportion to its mass. This hormone circulates in the blood and acts on the hypothalamus to regulate food intake and energy expenditure. When fat mass decreases, plasma leptin levels fall stimulating appetite and

suppressing energy expenditure until fat mass is restored. When fat mass increases, leptin levels increase, suppressing appetite until weight is lost. It is through this mechanism that total energy stores are stably maintained within a relatively narrow range.

Genetic defects in the leptin gene are associated with massive obesity in mice and some humans. Treatment with recombinant leptin markedly reduces food intake and body weight in these patients. The low leptin levels in patients with leptin mutations are also associated with multiple abnormalities including infertility, diabetes and immune abnormalities all of which are corrected by leptin treatment.

**As a research scientist, what did you gain from the *Danone International Prize for Nutrition* ?**

The Danone Prize [120 000 €] allowed us to begin several novel lines of research that would not have been possible without these funds. In one study, we were able to add a radioactive metal to leptin which allowed us to follow leptin's distribution in the body in rodents and non-human primates. This study allowed us to define the mechanism by which leptin is metabolized in vivo and also revealed a surprising and important avidity of leptin for cells of the human system. This work has recently been accepted for publication.

In other ongoing studies, Danone funds are being used to develop a novel methodology that, if successful, will allow us to non-invasively modulate the activity of specific neurons in awake animals potentially allowing us to assess the effects of activating specific neural populations on feeding behaviour.

On a personal note, the Danone Prize has emerged as the most prestigious prize in the field of nutrition and I feel greatly privileged to have had my name added to the list of distinguished previous recipients.