



Press release

**The 11th Endocrine Regulation Prize of the *Fondation Ipsen*
is awarded to Dr Jeffrey M. Friedman
(*The Rockefeller University, New York, USA*)**

Paris (France), September 20, 2012 – The international jury under the presidency of Professor Iain Robison (*National Institute for Medical Research, London, UK*) awarded on September 12th, 2012, the 11th Endocrine Regulation Prize of the *Fondation Ipsen* (20.000€) to Dr Jeffrey M. Friedman (*The Rockefeller University, New York, USA*) during the congress of the ENEA (15th Congress of the European NeuroEndocrine Association) in Vienna (Austria), for his discovery of the hormone leptin and its role in regulating body weight. Leptin produces a feeling of satiety. Humans with a mutation on the leptin gene have a constant desire of food. The discovery of leptin is of major importance for the understanding of human obesity.

The discovery of leptin 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 blood and acts on the hypothalamus to regulate food intake and energy expenditure. When fat mass falls, 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. By such a mechanism total energy stores are stably maintained within a relatively narrow range. Recessive mutations 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. 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. These findings have established important links between energy stores and many other physiologic systems and led to the use of leptin as a treatment for an increasing number of other human conditions including a subset of obesity, some forms of diabetes including lipodystrophy and hypothalamic amenorrhea (the cessation of menstruation seen in extremely thin women). Identification of a physiologic system that controls energy balance establishes a biologic basis for obesity and further understands links between leptin and numerous other physiologic responses. Recent studies have explored the relationship between leptin and the reward value of food. In addition, new methods for identifying neurons activated by leptin and other stimuli have been developed.

Dr. Jeffrey Friedman is a physician scientist studying the genetic mechanisms that regulate body weight. His research on various aspects of obesity received national attention in late 1994, when it was announced that he and his colleagues had isolated the mouse *ob* gene and its human homologue. They subsequently found that injections of the encoded protein, leptin, decreases body weight of mice by reducing food intake and increasing energy expenditure. Current research is aimed at understanding the genetic basis of obesity in human and the mechanisms by which leptin transmits its weight reducing signal. Dr. Jeffrey Friedman is currently a Professor at the Rockefeller University, an Investigator at the Howard Hughes Medical Institute and the Director of the Starr Center for Human Genetics. He received his medical degree from Albany Medical College of Union University in Albany, New York and came to Rockefeller as a postgraduate fellow and associate physician in 1980. In 1995 he was appointed Director of the Starr Foundation Center for Human Genetics. Dr.



Friedman was elected to the National Academy of Science in 2001 and received numerous prestigious awards over the two past decades, among them, the Albert Lasker Basic Medical Research Award, 2010.

The Endocrine Regulation Prize

Created in 2002, this Prize of the *Fondation Ipsen* has been awarded to the renowned specialists Wylie VALE (2002), Robert LEFKOWITZ (2003), Pierre CHAMBON (2004), Thomas HÖKFELT (2005), Roger CONE (2006), William CROWLEY (2007), Ronald EVANS (2008), Gilbert VASSART (2009) and Shlomo MELMED (2010). The members of the jury are: Iain ROBINSON (*National Institute for Medical Research, London, UK*), President, Xavier BERTAGNA (*Hôpital Cochin, Paris, France*), Felipe CASANUEVA (*University of Santiago de Compostela, Santiago de Compostela, Spain*), Michael CONN (*ORPC, Beaverton, USA*), Alain ENJALBERT (*UMR 6231 CNRS-Universités Aix Marseille II et III, Marseille, France*), Rolf GAILLARD (*Centre Hospitalier Universitaire Vaudois, Lausanne, Switzerland*), Ezio GHIGO (*Ospedale Molinette, Turin, Italy*), Ilpo HUHTANIEMI (*Imperial College Faculty of Medicine, London, UK*), Paul KELLY (*Faculté de Médecine Necker Enfants Malades, Paris, France*), Steven LAMBERTS (*Erasmus University, Rotterdam, the Netherlands*), Stafford LIGHTMAN (*University of Bristol, Bristol, UK*), Günter STALLA (*Max Planck Institute of Psychiatry, München, Germany*) and Paolo SASSONE-CORSI (*University of California, Irvine, USA*).

About the *Fondation Ipsen*

Established in 1983 under the aegis of the Fondation de France, the mission of the Fondation Ipsen is to contribute to the development and dissemination of scientific knowledge. The long-standing action of the Fondation Ipsen aims at fostering the interaction between researchers and clinical practitioners, which is indispensable due to the extreme specialisation of these professions. The ambition of the Fondation Ipsen is to initiate a reflection about the major scientific issues of the forthcoming years. It has developed an important international network of scientific experts who meet regularly at meetings known as Colloques Médecine et Recherche, dedicated to six main themes: Alzheimer's disease, neurosciences, longevity, endocrinology, the vascular system and cancer science. Moreover the Fondation Ipsen has started since 2007 several meetings in partnership with the Salk Institute, the Karolinska Institutet, the Massachusetts General Hospital, the Days of Molecular Medicine Global Foundation as well as with the science journals Nature, Cell and Science. The Fondation Ipsen produced several hundreds publications; more than 250 scientists and biomedical researchers have been awarded prizes and research grants.

For further information, please contact:

Isabelle de Segonzac, Image Sept

E-mail : isegonzac@image7.fr

Tel. : +33 (0)1 53 70 74 70