

**KISSPEPTIN – A MULTIFUNCTIONAL PEPTIDE**

**KAMIL ZIARNIAK<sup>1</sup>, MONIKA DUDEK<sup>2</sup>, JOANNA H. ŚLIWOWSKA<sup>2</sup>**

*<sup>1</sup>Student's Association of Zootechnicians and Biologists, Faculty of Veterinary Medicine and Animal Sciences, Poznan University of Life Sciences, Wolynska 33, 60-637 Poznan, <sup>2</sup>Laboratory of Neurobiology, Institute of Zoology, Poznan University of Life Sciences, Faculty of Veterinary Medicine and Animal Sciences, Wojska Polskiego 71 C, 60-625 Poznan, E-mail: kamilziarniak@gmail.com*

**Summary**

Only a decade ago metastatin was known for its role in preventing metastasis. In 2003 this peptide was rediscovered as a group of peptides (10-54 amino acids in length) called kisspeptin, which are revolutionizing the field of reproductive biology. Kisspeptin plays a crucial role in regulation of puberty and other reproductive functions as well as pathological conditions, such as obesity and diabetes type 1 and 2, where there occur deregulation of the hypothalamic-pituitary-gonadal axis. As obesity and diabetes spread throughout the globe, the World Health Organization recognized both diseases as the major public health problems. In the United States, the obesity is already a serious health concern for one in three inhabitants. Thus, more attention is being paid to the correlation between increased body weight and impaired reproductive functions. Obesity is now dramatically on the rise and is a major risk factor for a number of chronic diseases, including diabetes. The accumulated so far evidence indicates that in the case of obesity and diabetes kisspeptin exhibits therapeutic effects on regulation of reproductive functions. Presence of kisspeptin peptides also in many other species (fish, amphibians, birds and mammals) allows the use of a variety of animal models. One can therefore expect further widening of the scope of experimental studies, especially since it has been shown recently that kisspeptin does not work alone, but cooperates with neurokinin B and dynorphin.