Neuropeptides in the central nervous system that impact the affective spectrum

Since the discovery of neuropeptides about sixty years ago, a progressively increasing number of investigations have arisen, indicating the emerging interest in understanding the role elicited by these ‘neuromodulators’ in the central nervous system. Whilst initially considered as mere hypothalamic secretions involved in the control of general homeostatic functions, neuropeptides have been found to act as pleiotropic agents that elicit neuroprotective, neuroendocrine and neuroimmune functions.

Recent knowledge suggests that several classes of neuropeptides are produced and secreted by discreet brain regions to control a number of motivated behaviours.

In health conditions, motivated behaviours are essential for individuals to survive and adapt to the changing environment. However, exposure to acute or chronic stressors such as physical traumas and chronic pain states, dysfunctional life styles, wrong dietary habits or pre-existing neurodegenerative conditions can lead to the development of a broad spectrum of maladaptive behaviours of the affective spectrum that culminate in psychiatric conditions. Therefore, in view of the major role elicited by neuropeptides in the control of motivated behaviours, understanding their neurobiology, the underlying molecular mechanisms and interactions in response to these triggers becomes necessary to define viable solutions to mitigate the maladaptive behaviour and provide the basis for an effective diagnosis, prevention and treatment.

The goal of this Special Issue is to highlight recent advances on the regulatory role of neuropeptides in the context of feeding, sexual, sleeping, maternal and social behaviours, among others. Original contributions addressing the involvement of neuropeptides in the development of mental illnesses characterised by reduced or excessive motivational responses such as attention deficit hyperactivity disorder, autism spectrum disorders, bipolar disorder, borderline personality disorder, post-traumatic stress disorder and foetal alcohol spectrum disorders will also be considered.

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Contact us: JINeditorial@imrpress.org

Guest Editor:

Dr. Alessandro Castorina
Laboratory of Cellular and Molecular Neuroscience, School of Life Sciences, Faculty of Science, University of Technology Sydney, Australia

Alessandro.Castorina@uts.edu.au

Alessandro Castorina

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Rm. 19C, Lockhart Ctr., 301-307 Lockhart Rd., Wan Chai, Hong Kong.