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Sommario/riassunto	Regulation of defence mechanisms in the body is maintained via bi-directional interactions between the nervous- and immune systems. Recent development of multidisciplinary approaches enabled some insight into the complexity of these interactions although control of immunity by the nervous system is still poorly understood. Nevertheless, inadequate regulation of inflammatory processes is increasingly linked to acute and chronic diseases in which the active role of the central nervous system is emerging. Insufficient immune activation contributes to the development of infections or cancer, whilst excessive immune activation is associated with acute and chronic inflammatory diseases, such as autoimmune conditions, septic shock, fever or allergies. This indicates that feedback regulation of immune function must exist to prevent either eventuality under optimum conditions. More recently, chronic inflammation has been identified as a driver for several non-communicable diseases such as atherosclerosis, hypertension, obesity or diabetes that are also primary risk factors for acute cardio- and cerebrovascular events. In these conditions, altered function of neuroendocrine and autonomic systems is now also recognised, and contributes to / influenced by altered

production of inflammatory mediators, such as Interleukin 1 (IL-1). Elevated systemic inflammatory burden is clearly associated with cerebrovascular changes in both patients and experimental animal models and a role for the central nervous system in driving systemic inflammatory changes is emerging. Moreover, it is also becoming clear that chronic immune conditions may underlie/precipitate serious neurological conditions including Autism. The scope of this research topic is to facilitate understanding of complex neuro-immune interactions by gathering relevant research papers and review articles. Specifically, we aim to bring together experts in this field, who have contributed substantially to our knowledge about neural regulation of immunity in health, and in common inflammatory diseases that exert significant burden on the society. We believe that research addressing disease mechanisms has to consider the complexity of in vivo systems, and by investigating neuro-immune interactions, this research topic might also contribute to our understanding and facilitate the development of better therapeutic approaches in inflammatory diseases.
