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Sommario/riassunto	Neuroimmunology is a rapidly growing emerging field at which two old sciences have converged to integrate two different types of responses into a single coherent response involving the coordinated action of both systems, neural and immune. During long time it was thought that both systems worked separately and in divergent pathways. The brain was considered an immunoprivileged site and the immune organs were deemed as independent of any neural influence and also of nervous innervation. Time has gone and has proven that the borders between both systems were merely artificial. Since the beginning of Neuroimmunology in the 1980s much work has been done to elucidate the gates and fences in neuro-immune interactions. Brain was shown to be under the continuous surveillance of the immune system, even under basal physiological conditions in the absence of any pathology. Likely, it was found a profuse nervous innervation of lymphoid organs and even of single immune cells. Gates for direct neural immune communication were found both centrally and peripherally. Centrally, the gates, but also the fences, were situated at the brain barriers, the

blood-brain barrier and the blood-cerebrospinal fluid barrier, and at the circumventricular organs. Peripherally, the fences constituted the apparent diverse nature of molecules involved in neural and immune signaling; however, time proved that both system were capable of producing the same signaling molecules and also systematically responded to the molecules released by the other system. Therefore, the gates were open for direct neural-immune communication at the peripheral level. This Research Topic aims to include original reports, reviews and technical reports regarding the description of the gates and fences in neural immune interactions. We intend to provide an extensive view of the mechanisms governing central and peripheral neural-immune interactions, and the role of the borders, the blood-neural barriers, in the regulation of the neural-immune communication.

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