

**Name:**

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Supervisor:

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PhD project title:

Promising strategies for the treatment of neuroinflammation-associated pathologies.

Research summary:

A prolonged neuroinflammatory response may contribute to the onset and progression of neurodegenerative diseases, in which altered neurosteroid levels have been demonstrated. As a potential therapeutic strategy, the scientific community is currently addressing particular attention to steroidogenic ligands of the mitochondrial Translocator Protein (TSPO) to stimulate native neurosteroidogenesis and restore physiological neurosteroid levels. Under pathological conditions, microglia, which are the innate immune cells of the Central Nervous System, acquire a dysfunctional phenotype, losing their ability to perform housekeeping and homeostatic microglial functions. My PhD project aims to investigate the role of TSPO-mediated neurosteroidogenesis in the autocrine regulation of microglial phenotypes, paying particular attention to the trafficking of cholesterol, the precursor of the entire neurosteroidogenic cascade, which must remain at a steady-state concentration to positively impact microglial function.

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