

## HISTOCHEMICAL DEMONSTRATION OF MICROGLIAL CELLS IN THE CEREBRAL CORTEX OF THE LIZARD BY THE NDPase METHOD

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While presence of microglial cells in the central nervous system of mammals is well established, studies reporting identification of this glial cell type in lower vertebrates are not available, in part due to the absence of specific markers. The aim of this work was to analyze the morphology and spatial distribution of microglial cells in the medial, dorsomedial and dorsolateral cortical regions in two lizard species, *Podarcis muralis* and *Podarcis hispanica*, by using the nucleoside-diphosphatase (NDPase) method as microglial marker. After appropriate fixation, coronal vibratome sections were reacted for NDPase enzymatic activity demonstration. Our results showed that in both species microglial cells were selectively stained by the NDPase staining. Microglial cells were always recognized as isolated, ramified cells with variable morphology. Microglial cell distribution was not uniform showing a specific localization pattern in the different cortical areas. In the medial cortex, microglial cells were principally found in the outer and inner plexiform layers (OPL,IPL) near the granular layer (GL). No microglial cells were found near the brain surface and in the deep plexiform layer. In the dorsomedial cortex, microglial cells were found in the OPL near the brain surface, in the upper part of the GL, and near the ependymal layer. No microglial cells were observed, however, in both OPL and IPL areas adjacent to GL. Finally, in the dorso-lateral cortex, microglial cells were located in the superficial OPL, in and bordering the GL, and scattered in the IPL. This layered pattern distribution of microglial cells closely corresponds with the reported serotonergic pattern giving support to the hypothesis that microglial cells could be implicated in the metabolism of certain neurotransmitters.