Title

Electrophysiological Recordings of Oligodendroglia in Adult Mouse Brain Slices

Abstract

Communication between neurons and oligodendrocyte lineage cells has attracted a great interest since multiple discoveries revealed its important roles in brain function under physiological and pathological conditions. Oligodendroglia responds to neuronal activity through the activation of a plethora of ion channels and receptors whose expression changes depending on the maturation state and whose characterization helps defining their interactions with neurons. Here, we describe in detail the methodology for carrying out electrophysiological patch-clamp recordings of oligodendroglial cells in acute brain slices of adult mice, with an emphasis on tailor-made solutions to make this experimental approach successfully. Additionally, we describe a protocol for combining photostimulation of neurons with patch-clamp recordings of oligodendroglia.

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