

# Intrinsic subthreshold oscillations of the membrane potential in pyramidal neurons of the olfactory amygdala

Sanhueza, Magdalena

Bacigalupo, Juan

The amygdala complex is a heterogeneous group of temporal lobe brain structures involved in the processing of biologically significant sensory stimuli and in the generation of appropriate responses to them. The amygdala has also been implicated in certain forms of emotional learning and memory. While much progress has been made in understanding neural processing in the basolateral subgroup of the amygdala, physiological studies in the cortical regions of the complex, also known as olfactory amygdala, are missing. Using a rat brain slice preparation, we conducted whole-cell recordings on pyramidal neurons of the periamygdaloid cortex and the anterior cortical nucleus, two structures receiving direct connections from the olfactory bulb. Upon depolarization by current injection through the recording electrode, a fraction of periamygdaloid cortex and most anterior cortical nucleus layer II pyramidal neurons displayed an intermittent discharge pattern, where clusters of action potentials we