

Group name: Physiology of the cerebral cortex

IP name: Emilio Geijo-Barrientos

Group web: under construction

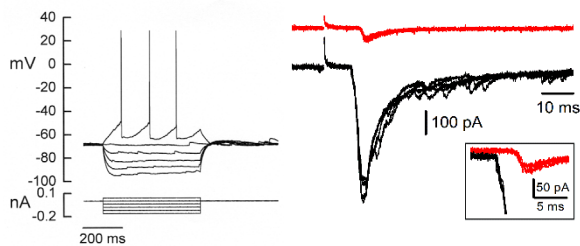
Title of the MRP/TFM:

Physiology of local neuronal circuits of the retrosplenial cerebral cortex

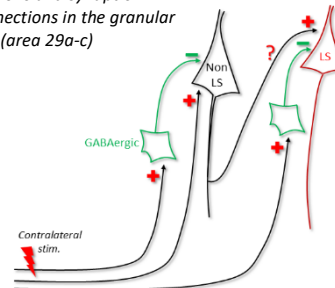
Summary of the Project:

The retrosplenial cortex (RSC) is implicated in functions such as memory and orientation during navigation. The objective of this project is to study the synaptic connections between pyramidal neurons of layer 5b (of cortical projection) and pyramidal neurons of layer 2/3 in a subarea of the RSC (the granular RSC). The core of the experimental work will require the recording and analysis of synaptic responses (either inhibitory or excitatory) from both types of cortical neurons. In the last part of the project, to complete the study of the functional role of these synaptic connections, it could be necessary also the use of calcium imaging and optogenetic tools.

Action potential firing and synaptic responses in pyramidal neurons



Neurons and synaptic connections in the granular RSC (area 29a-c)



Methods and technology involved in the MRP/TFM Project:

Mainly electrophysiological recordings in brain slices (extracellular and intracellular); optionally: calcium imaging and optogenetics.

Member/s of the lab who will act as tutor/co-tutor of the project (if different from the group IP):

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