* 1. Effect of sodium bromide on CA1-pyramidal cells, GABAergic transmission, synaptic plasticity and pilocarpine-induced seizures

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Bromide was the first effective anticonvulsant, but became less conventional due to the development of more modern compounds. Nevertheless, it is still a valuable drug for the treatment of refractory epilepsy in pediatric patients. Since the mechanism of bromide acting as antiepileptic drug is still under debate we tested the effect of sodium bromide in chronically epileptic rats following a pilocarpine-induced status epilepticus.

Given the wide range of the antiepilectic activity profile that has been revealed through several studies on different models of epilepsy, we conducted intracellular measurements to find out any effects on membrane properties bromide could provide.

In the past we could demonstrate, that after pilocarpine-induced status epilepticus EGABA  underwent a shift towards more positive values. We therefore tested the effect of acute bromide application on IPSP in pyramidal cells of the CA1 region of the hippocampus.

Because bromides are clinically almost exclusively used for juvenile patients we used two different models for induction of chronic epilepsy. The first model is broadly used in adult rats. The second one induces chronic epilepsy through status epilecticus during infancy. Therefore we could conclude any age related effects of bromide treatment.