



Short communication

Effect of neuraminidase treatment on persistent epileptiform activity in the rat hippocampus

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Abstract:

Negatively charged sialic acid residues located close to pores of voltage-gated sodium channels substantially influence their gating properties. The *in vitro* low Mg²⁺ seizure model is used to emulate difficult-to-treat status epilepticus. Using this model on cultured hippocampal slices, we examined the effectiveness of desialylation in reducing persistent seizure-like activity. We show that desialylation in cultured hippocampal slices effectively suppresses seizure-like activity induced by low Mg²⁺. These findings suggest that targeting negatively charged sialic acids may be an effective strategy to treat status epilepticus.

Key words:

neuraminidase, surface charge, seizures, hippocampus
