**Detailed experimental information according to the ARRIVE guidelines**

**METHODS**

***Ethical statement***

All animal experiments were conducted in accordance with guidelines from the Danish Animal Experimentation Inspectorate and the European Communities Council Directive of 24 November 1986 (86/609/EEC).

***Study design***

**a**) *Number of experimental and control groups:* Four groups of 10 mice each were studied: 1. sham-ECS treated once daily for 14 days; 2. sham-ECS treated once daily for 13 days followed by ECS on day 14; 3. ECS treated once daily for 14 days; 4. ECS-treated once daily for 14 days followed by one week without treatment.

**b**) *Minimizing the effect of subjective bias when allocating the animals:* Randomized cage assignment into the four treatment groups was performed by picking the cage number out of a hat.

**c**) *Experimental unit:* In this study, n refers to number of animals. 20 series of 15 µm hippocampal sections were obtained from each animal. A minimum of at least four adjacent sections from each animal was used for each protocol (10 animals in each group).

**d**) *Time-line diagram:* Not relevant

***Experimental procedures***

**a**) *How:* ECS stimulations (15 mA, 0.5 sec, 50 Hz, pulse width = 10 ms) were administered transcranially via a metal forceps applied to the skull immediately in front of the ears using a PSCC-10 pulse-stimulator (DCM electronics, DK). Sham-ECS was delivered by the same procedure, but without passing of current.

**b**) *When:* Both sham-ECS and ECS stimulations were completed during the light phase between 11 A.M. to 1 P.M.

**c**) *Where:* The ECS procedure was completed in an undisturbed room at the animal facility. Each experimental day, the mice were habituated to the room by placement one hour prior (10 A.M.) to the ECS procedure.

**d**) *Why:* The ECS settings were selected in such a way that the stimulations induced a tonic-clonic seizure activity lasting 20-30 sec in all mice.

***Experimental animals***

**a**) *Animals used:* Male NMRI mice weighing 30-40 g, aged 8-10 weeks, were used (n = 40).

**b**) *Further relevant information:* All the mice were obtained from Taconic M&B, Denmark, and handled daily during 7 days of acclimatization.

***Housing and husbandry***

**a**) *Housing:* The animals were kept in groups of eight per cage (standard cages: type 3, Scanbur) in a temperature (21 ± 1oC) and humidity (50 ± 5%) controlled room.

**b**) *Husbandry conditions:* All mice were allowed access to food and water *ad libitum* in a 12-hour light/dark cycle. All cages contained wood shavings, bedding and a cardboard tube for environmental enrichment.

**c**) *Welfare-related assessment:* Not relevant.

***Sample size***

**a**) *Total number of animals used:* 40 healthy mice were divided into four groups of 10 each. Animals of group 1 were sham-ECS treated once daily for 14 days and served as control, whereas group 2 received sham-ECS once daily for 13 days followed by ECS on day 14. Animals of group 3 were ECS treated once daily for 14 days and animals in group 4 were ECS-treated once daily for 14 days followed by one week without treatment.

**b**) *Sample size calculation:* Power analysis was performed to calculate the number of animals in the present study. To achieve a power of 0.80 and an alpha of 0.05 to detect a difference would require a total of 40 animals.

**c**) *Independent replications of each experiment*: None.

***Allocating animals to experimental group***

**a**) *Animal allocation to experimental group:* The mice were allocated to treatment per cage; cage 1 = group 1, cage 2 = group 2, cage 3 = group 3, cage 4 = group 4, cage 5 = group 1, cage 6 = group 2, cage 7 = group 3, cage 8 = group 4.

**b**) *Order of treatment and assessment:* The order of treatments was chosen randomly each day.

***Experimental outcomes***

# *Assessment of primary and secondary experimental outcomes:* The primary outcome of each group was analyzed by a person blinded to treatment: SST and SSTR1-4 mRNA expression, SST immunofluorescence and SST binding.

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***Statistical methods***

**a**) *Statistical methods used:* SST and SSTR1-4 mRNA expression, and SST binding were analyzed using two-way ANOVA followed by Bonferroni-adjusted post-hoc *t*-test. One-way ANOVA followed by Dunnett’s post-hoc test was used to analyse SST immunoflourescence data.

**b**) *Unit for analysis of each dataset:* For each test, the experimental unit was a group of animals.

**c**) *Method used to assess the data of the statistical approach:* Test for normality was performed using the Shapiro-Wilk normality test.