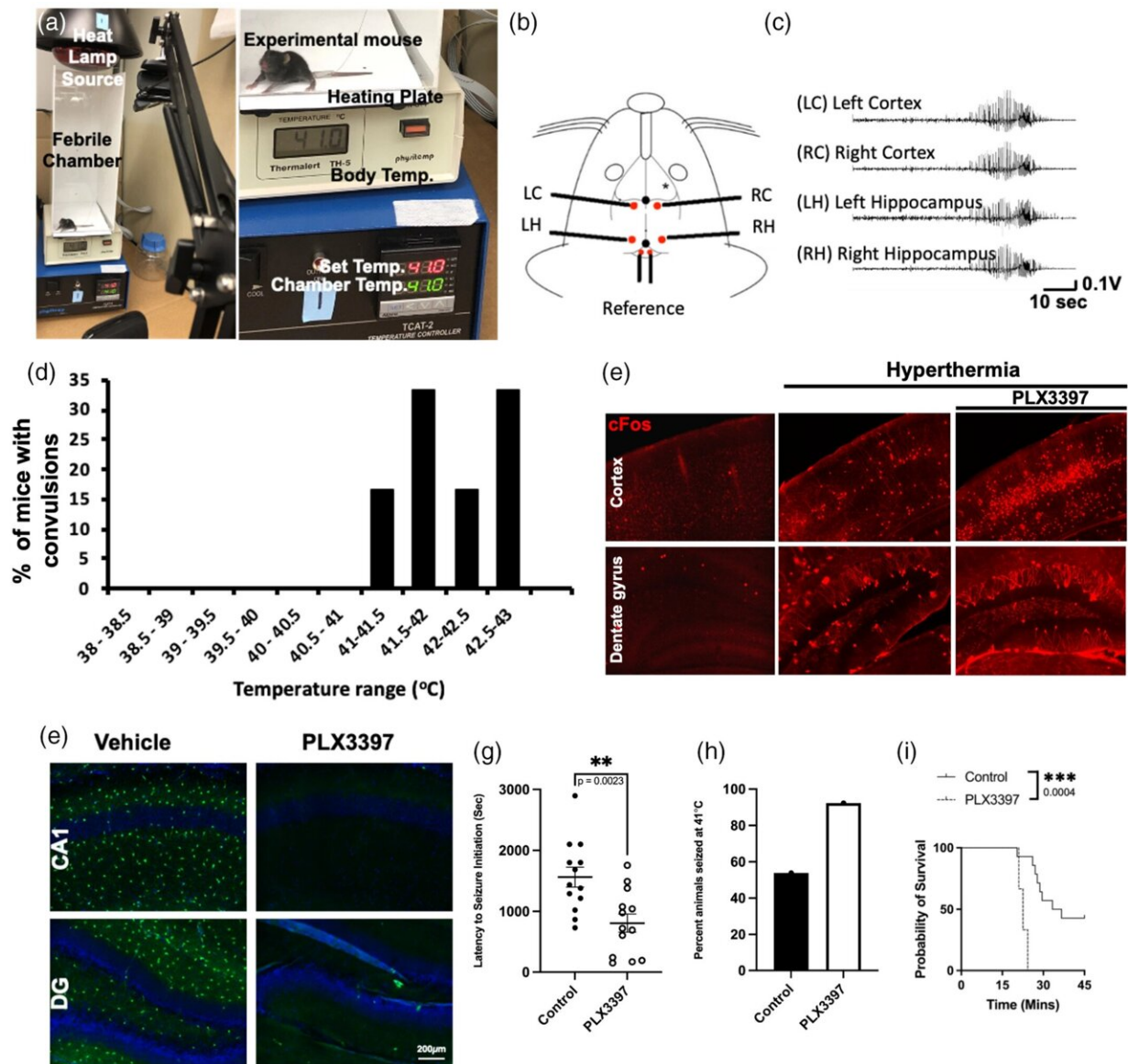


Seizure discoveries advance efforts to develop better treatments

May 4 2023



Microglia are beneficial in hyperthermia-induced seizures in developing mice.

(a) Image of hyperthermic (febrile) seizure setup with a mouse in a chamber made of plexiglass with heat provided by a heating plate below and a heat lamp from above. Temperature in chamber can be set and measured externally. (b) Schematic of a mouse head with implanted electrode in the left cortex (LC), right cortex (RC), left hippocampus (LH), and right hippocampus (RH). (c) Electrical activity is detected in all four regions upon hyperthermia exposure. (d) The percent of mice that show behavioral convulsions under hyperthermia at the different temperatures. (e) cFos expression in the cortex and dentate gyrus of normothermic and hyperthermic conditions as well as with microglial depletion. (f) Efficient microglial elimination with PLX3397 treatment in developing mice. (g–i) Microglial elimination and its effects of time to the first seizures (g) percent of mice that seize at 41°C (h) and mortality rate (i) during hyperthermia-induced seizures in developing mice. $n = 13$ mice per group. Statistics calculated by Student's t -test and χ^2 with Fisher's exact test in (i). ** p

Citation: Seizure discoveries advance efforts to develop better treatments (2023, May 4) retrieved 11 July 2024 from <https://medicalxpress.com/news/2023-05-seizure-discoveries-advance-efforts-treatments.html>

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