Review of: "Impending role of hippocampal neurogenesis in the development of chronic epilepsy following seizures after Kainic acid and Pentylenetetrazol treatment"

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Potential competing interests: No potential competing interests to declare.

The work entitled, "Impending Role of Hippocampal Neurogenesis in the Development of Chronic Epilepsy Following Seizures After Kainic Acid and Pentylenetetrazol Treatment," concerns the observed changes at the tissue level in a model of epileptic seizure induction in rats.

In points:

1. The paper does not include a description of the procedures performed and presented in the results.
2. Lack of literature support for the use of the epilepsy induction model.
3. The description of the division of study groups is unclear, and it is not known what the final number of groups included in individual analyses is in each period.
4. No description of the method of preparation of the obtained preparations - number of repetitions, method of tissue fixation, preparation of hippocampal sections.
5. No description of the method of analysis of the obtained preparations, i.e., what signals from the preparations and how the microscope images were quantified.
6. Lack of presentation of numerical and qualitative (in the form of photos) data for other regions of the hippocampus (CA1-CA3), which are discussed in the work.
7. The results in the figures are presented in an unclear way (poorly described panels, poorly presented markings (arrows), lack of panel descriptions; the marking of statistical significance - it is not clear (which groups are compared); low quality of photos and column charts;
8. In addition:

    - Fig. 1 - lack of numerical quantification of data from tissue assays;
    - Fig. 2 - no exemplary images of preparations; the determination of statistical significance is not clear (which groups are compared)
    - Fig.3 - no exemplary images of preparations; no assessment of cells divided into groups - neurons vs. astrocytes (which is somewhat discussed in the results in the main text); it is not known what the letters "a" and "b" mean in column charts.
    - Fig. 4 - no exemplary images of preparations;

- Fig. 5 - no numerical quantification of tissue assay data;
- Fig.6 - It is not clear why the cells presented are considered neurons - no identification.
- Fig. 7 - is too large and does not fit on one page (it covers 1.5 pages), which makes it difficult to read concerning the signature; incorrect Western Blot panel (unlabeled, unlabeled, no comment in the figure caption, no mass marker);

9. The basic conclusions of the study are based on the results of determining proliferating cells using the BrDU method. However, due to the lack of a detailed description of the experimental procedures, it is difficult to conclude about the correctness of the results. From the exemplary images presented in Fig. 5, the applied staining in visible light in gray (BrDU) and brown (GFAP) gives unclear results, difficult to assess manually and computationally, which may generate false positive data on the level of proliferation.
10. The discussion is poorly grounded in the available literature data.
11. Lack of deeper conclusions that would confirm the correctness of the conclusions drawn, which are only hypotheses rather than results supported by hard evidence.

Overall, I assess the work as unreliable, and the description of the results does not convince of the discussed conclusions. It is also not convincing about the idea of the research undertaken and the expected results in the future.