

OPEN PEER REVIEW REPORT 2

Reviewer 2: Aurel Popa-Wagner, University Medicine Rostock, Germany.

Comments to the authors:

Brain injury and stroke induce neurogenesis. There is some evidence indicating that SDF-1/CXCR4 is related to neurogenesis in the DG, both in normal and ischemic animals. In this study, the authors whether neuronal CXCR7 receptors can regulate hippocampal neurogenesis after stroke. They explored the effect of anti-CXCR7 antibody infusion on the proliferation and dendritic growth of immature neurons in the DG as well as on cognitive functional recovery in rats that had received focal cerebral ischemia. They showed that anti-CXCR7 antibody enhanced the proliferation and dendritic development of immature neurons in the DG, in both the sham and ischemic rats, as well as improved the recovery of cognitive function in the chronic phase of ischemic stroke. This is an interesting study. The study has been performed in young rats. However, the response of the aged brain is quite different. Therefore the authors shall discuss the effect of age for cell therapies, see:

1. Front Cell Neurosci. 2014 Nov 3;8:347. doi: 10.3389/fncel.2014.00347.
2. Neural Regen Res. 2015 Sep;10(9):1349-55. doi: 10.4103/1673-5374
3. Neural Plast. 2015;2015:839638. doi: 10.1155/2015/839638
4. Front Aging Neurosci. 2014 Jun 23;6:130. doi: 10.3389/fnagi.2014.00130
5. Restor Neurol Neurosci. 2014;32(4):547-58. doi: 10.3233/RNN-140404