Isolation of adult hippocampal neural progenitors.

Journal: Methods Mol Biol

Publication Year: 2010

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PubMed link: 20405359

Funding Grants: Human Stem Cell Training at UC Berkeley and Childrens Hospital of Oakland

Public Summary:

Scientific Abstract:
Adult neurogenesis, or the creation of new neurons in adult organisms, is an exciting recent area of neurological research. The subgranular zone of the adult hippocampus is one area where hippocampal neural progenitors generate new neurons that functionally integrate into existing neuronal circuitry. Given the role that the hippocampus plays in learning and memory consolidation and its vulnerability to neurological diseases and conditions, such as Alzheimer's disease, understanding the mechanisms controlling the self-renewal and differentiation of neural progenitor cells is a critical first step in developing novel disease treatments. In this and subsequent chapters, we describe many of the in vivo and in vitro techniques necessary to study hippocampal progenitors in the adult rat. Specifically, this chapter details isolation of progenitors from the adult rat for the establishment of in vitro culture.