

第24回 最先端脳科学セミナー

Engram cells retain memory under retrograde amnesia

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場所: 日医工オーデトリウム (医薬イノベーションセンター1F)

Memory consolidation is the process by which a newly formed and unstable memory transforms into a stable long-term memory. It is unknown whether the process of memory consolidation occurs exclusively through the stabilization of memory engrams. By using learning-dependent cell labeling, we identified an increase of synaptic strength and dendritic spine density specifically in consolidated memory engram cells. Although these properties are lacking in engram cells under protein synthesis inhibitor-induced amnesia, direct optogenetic activation of these cells results in memory retrieval, and this correlates with retained engram cell-specific connectivity. We propose that a specific pattern of connectivity of engram cells may be crucial for memory information storage and that strengthened synapses in these cells critically contribute to the memory retrieval process. *Science* 348:1007-1013, 2015

※ 本セミナーは、大学院生命融合科学教育部「生命高次適応科学特論」の一環です。履修者は、レポートの提出が必要です。また、大学院の単位認定の対象となります。

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