Medical Xpress

Lithium restores cognitive function in Down syndrome mice

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Down syndrome is a neurodevelopmental disorder that is the leading cause of genetically defined intellectual disability. In the brain, Down syndrome results in alterations in the connections between neurons and a reduction in the development of new neurons (neurogenesis) that usually occurs during learning.

In this issue of the Journal of Clinical Investigation, researchers led by Laura Gasparini at the Istituto Italiano di Tecnologia in Genova, Italy report that lithium, a drug commonly used for the treatment of mood disorders in humans, restores neurogenesis in the hippocampus, a part of the brain strongly associated with learning and memory.

Lithium also significantly improved the performance of Down syndrome mice in tasks measuring contextual learning, spatial memory, and object discrimination.

These results suggest that lithium-based therapies may help Down syndrome patients.

More information: Lithium rescues synaptic plasticity and memory in Down syndrome mice, *Journal of Clinical Investigation*, 2012.

Provided by Journal of Clinical Investigation

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