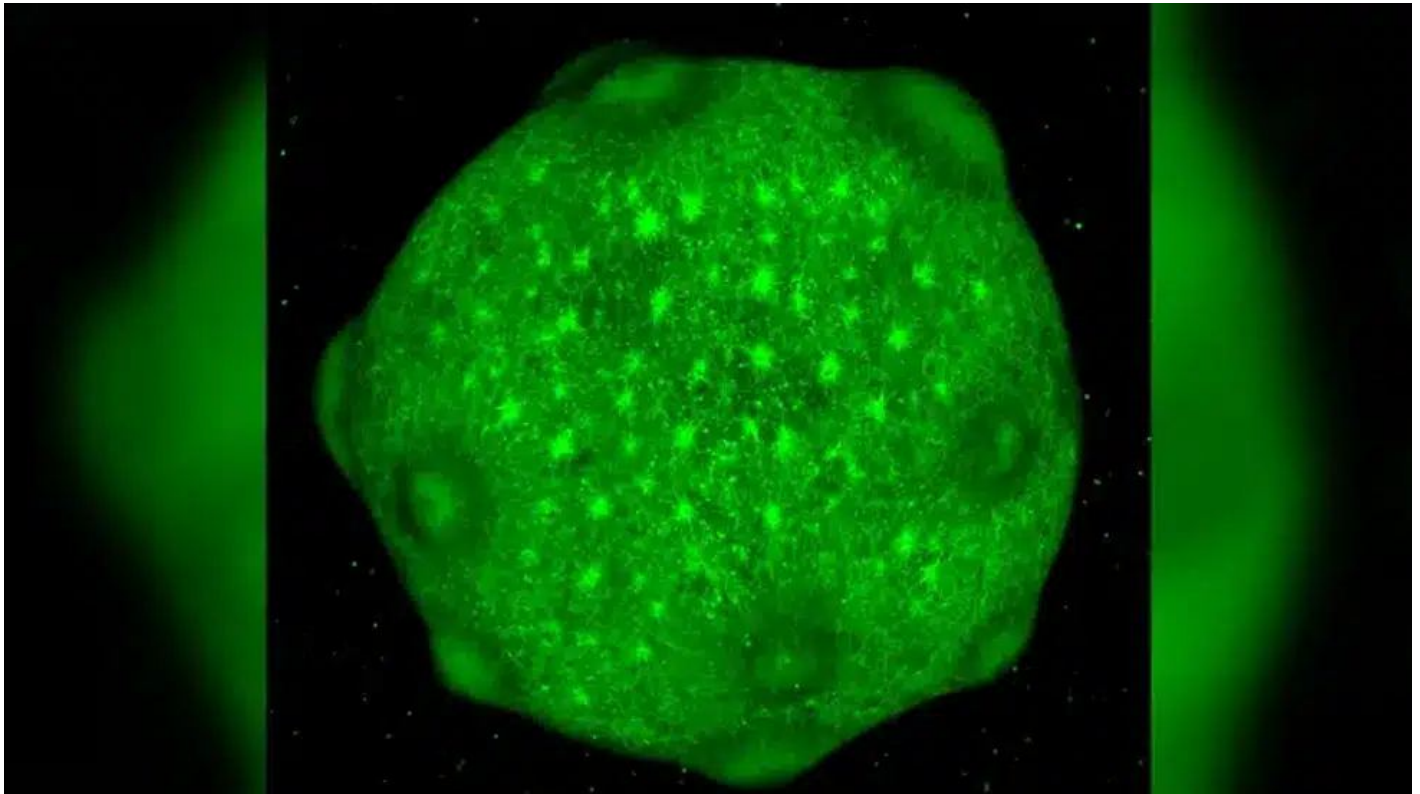


Lab-grown Minibrains

October 27, 2025 • vajiramandravi.com



About Lab-grown Minibrains

- These are scientifically known as **brain organoids**, but often called “**minibrains**” and serve as miniature, simplified models of full-size human brains.
- **How are minibrains made?**
 - Scientists typically grow brain organoids from **stem cells**, a type of immature **cell** that can give rise to any cell type, whether blood, skin, bowel or brain.
 - The stem cells used to grow organoids can either come from **adult human** cells, or more rarely, **human embryonic tissue**.
 - Scientists collect adult cells and then expose them to chemicals in order to revert them into a stem cell-like state. The resulting stem cells are called “**induced pluripotent stem cells**” (iPSC), which can be made to grow into any kind of tissue.
 - To give rise to a minibrain, scientists embed these stem cells in a protein-rich matrix, a substance that supports the cells as they divide and form a 3D shape. Alternatively, the cells may be grown atop a physical, 3D scaffold.

Application: These organoids can potentially be useful in basic research, drug development and even computer science.

Q1: What are Stem Cells?

These are cells with the potential to develop into many different types of cells in the body. Under the right conditions in the body or a laboratory, stem cells divide to form more cells called daughter cells. These daughter cells become either new stem cells or specialized cells (differentiation) with a more specific function, such as blood cells, brain cells, heart muscle cells or bone cells.

Source: [Lab-grown 'minibrains' help reveal why traumatic brain injury raises dementia risk](https://vajiramandravi.com/current-affairs/lab-grown-minibrains/)

Source: <https://vajiramandravi.com/current-affairs/lab-grown-minibrains/>

© Vajiram & Ravi. For personal use only.