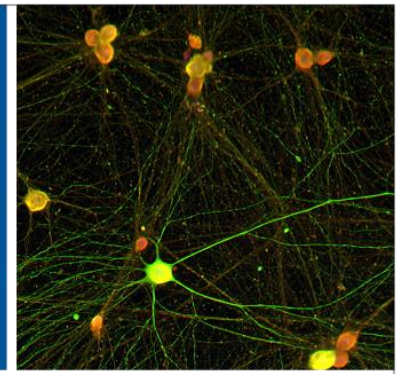




The BRAIN Initiative and Neuroscience Investments



BRAIN Initiative

Brain Research through Advancing Innovative Neurotechnologies (BRAIN) Initiative

- A **multidisciplinary collaboration** involving public and private partners to develop technologies and revolutionize our understanding of the human brain.
- With funding from the BRAIN Initiative, researchers are developing the tools and knowledge needed for **lifesaving breakthroughs**.
- New resources will enable the broader field to **progress faster** in understanding the most complex biological structure in the universe.
- The BRAIN Initiative requires sustained, robust funding to make **vital discoveries** possible.
- As of FY2017, NIH has contributed about **\$260 million** to the BRAIN Initiative¹; NIH recommends **\$500 million** in funding for FY2019
- In FY2017, **178 grants at 56 institutions** were funded by the BRAIN Initiative.

Catalyzing the Overall Neuroscience Investment

NIH: Collaboration among 15 NIH Institutes & Centers that support neuroscience

- BRAIN is a small, but important part of NIH funding, accounting for **less than 1%** of the total neuroscience research budget.
- **Pooled resources** connect NIH institutes and centers to **confront research challenges** too complex to be handled by a single institute.
- The **21st Century Cures Act** provides nearly **\$1.5 billion** to the BRAIN Initiative over 10 years.

National Science Foundation (NSF) Led Project

- NSF's Understanding the Brain project aims to enable scientific understanding of the interaction between the brain, behavior, and environment through targeted **cross-disciplinary investments**.
- In FY2016, **\$147 million²** in funding was dedicated to cognitive and neuroscience research done through this project, which includes the **BRAIN Initiative**.
- These investments are resulting in **tool and technology** creation.

Partnerships

- **Additional federal agencies participate**, including the Department of Defense, the Department of Energy, Food and Drug Administration, and more.
- The BRAIN Initiative leverages **foundations** like the Kavli Foundation, the Simons Foundation, the Allen Institute for Brain Science, the Pediatric Brain Foundation, and the Howard Hughes Medical Institute.
- Includes **industry partners** like Google, GE, Inscopix, Medtronic, GlaxoSmithKline, and others.

Recent Advancements³

Improving Whole Brain Imaging

BRAIN Initiative support has allowed for researchers to improve the accuracy and speed of the critical diagnostic technique, magnetic resonance imaging (MRI). Other projects generated more detailed brain images by improving methods for detecting the magnetism of brain particles.

Understanding and Treating Zika

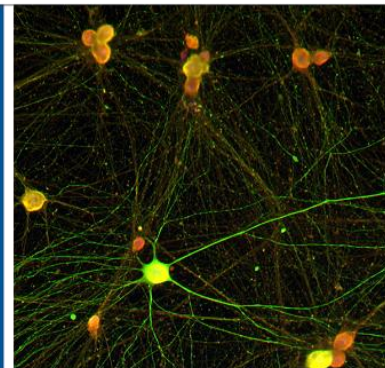
When tracking gene activity during development, BRAIN Initiative supported research discovered how the Zika virus damages the brain and found Zika responsive to a common antibiotic. Researchers now intend to pursue clinical trials testing if the antibiotic decreases the risk of brain damage in Zika-infected pregnant women.

Generating a Census of Brain Cells

Advancing our understanding of brain cell diversity, BRAIN Initiative funded research revealed new subtypes of human brain cells by mapping brain cells' DNA chemical tags in different species.



The BRAIN Initiative and Neuroscience Investments



Sources

¹ *The BRAIN Initiative*. National Institutes of Health. November 2015.

² *Consolidated Appropriations Act of FY 2016*. National Science Foundation. January 2016.

³ *NIH BRAIN Initiative Builds on Early Advances*. National Institutes of Health. October 2017.

The Society for Neuroscience (SfN) is a nonprofit membership organization of nearly 36,000 scientists and physicians who study the brain and nervous system. Visit SfN.org or email advocacy@sfn.org to learn more.