

Allen Institute for Brain Science launches new atlas, adds new data and tools to others

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The Allen Institute for Brain Science announced today the launch of a new brain atlas resource and updates to four existing resources, all publicly available online to accelerate brain research around the globe. The new atlas, the Allen Mouse Brain Connectivity Atlas, moves the Allen Institute's mapping efforts beyond its historical focus on gene expression toward neural circuitry. Additional updates include enhancements to the Allen Mouse Brain Atlas, the Allen Human Brain Atlas, the NIH Blueprint Non-Human Primate (NHP) Atlas, and the BrainSpan Atlas of the Developing Human Brain.

New Atlas Resource – Allen Mouse Brain Connectivity Atlas

The Allen Mouse [Brain](#) Connectivity Atlas is a three-dimensional, high-resolution map of neural connections throughout the mouse brain. Generated on a standardized platform, the Atlas is designed as a comprehensive interactive database of the information highways, called axonal projections, that link different brain areas to form the circuits responsible for behavior, perception and other brain functions. This foundational map will help scientists understand how the brain is wired, offering new insights into how the brain works and what goes awry in brain diseases and disorders.

"We are delighted to get this first batch of connectivity data into the hands of the broader research community," said Allan Jones, Ph.D.,

chief executive officer of the Allen Institute for [Brain Science](#). "We look forward to expanding this unique dataset significantly as the project continues."

This first data release includes an initial set of high-resolution images detailing axonal projections and anatomic reference data. The Atlas will be enhanced with additional data and more tools for data mining and visualization in subsequent data releases.

Other Updates

The Allen Mouse Brain Atlas is a genome-wide, three-dimensional map of [gene expression](#) throughout the adult [mouse brain](#). Completed in 2006, the Atlas has now been revamped to update the underlying technologies and leverage tools developed for other more recent atlases in the Allen Brain Atlas portfolio. Enhancements include new search and visualization features, such as an upgrade to the Brain Explorer® 3-D viewer that offers expanded anatomic detail, and an upgraded, fully-digitized and interactive reference atlas.

The Allen [Human Brain](#) Atlas is a multi-modal, three-dimensional map of the human brain that integrates anatomic and gene expression data throughout the adult human brain. With data for two complete brains available last spring, the latest data release adds the first batch of data from a third brain, specifically 110 new microarray samples. Because individual brains differ, the ability to compare data from multiple brains is important for understanding what features are common across individuals. Additional updates include enhancements to the user-interface and visualization functions improve usability.

The NIH Blueprint NHP Atlas offers a unique set of data and tools to explore the cellular and molecular architecture of the postnatal developing primate brain. This release adds microarray data and

associated search and visualization tools. Additional in situ hybridization data generated serially across hemispheres and corresponding downloadable magnetic resonance images are now also available.

The BrainSpan Atlas of the Developing Human Brain, created by a research consortium and made publicly available online via the Allen Brain Atlas data portal, provides broad and detailed anatomic analysis of gene expression across human brain development. The atlas has been expanded with new microarray data for 287 structures, complete with an interactive heat map viewer for browsing those data, and an anatomic reference atlas for one developmental stage.

About the Atlases

The Allen Brain Atlas resources, created by the Allen Institute for Brain Science as open online public resources, integrate large-scale, systematically generated gene expression and anatomic datasets, complete with powerful search and viewing tools. Each month, the Allen Brain Atlas resources receive approximately 45,000 visits from researchers worldwide. Regular updates and data releases put an increasing amount of valuable data and powerful search and viewing tools in the hands of scientists and research organizations everywhere, thereby accelerating understanding of the brain and related disorders and diseases. The Allen Institute's next public data release is scheduled for March 2012.

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Provided by Allen Institute for Brain Science

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