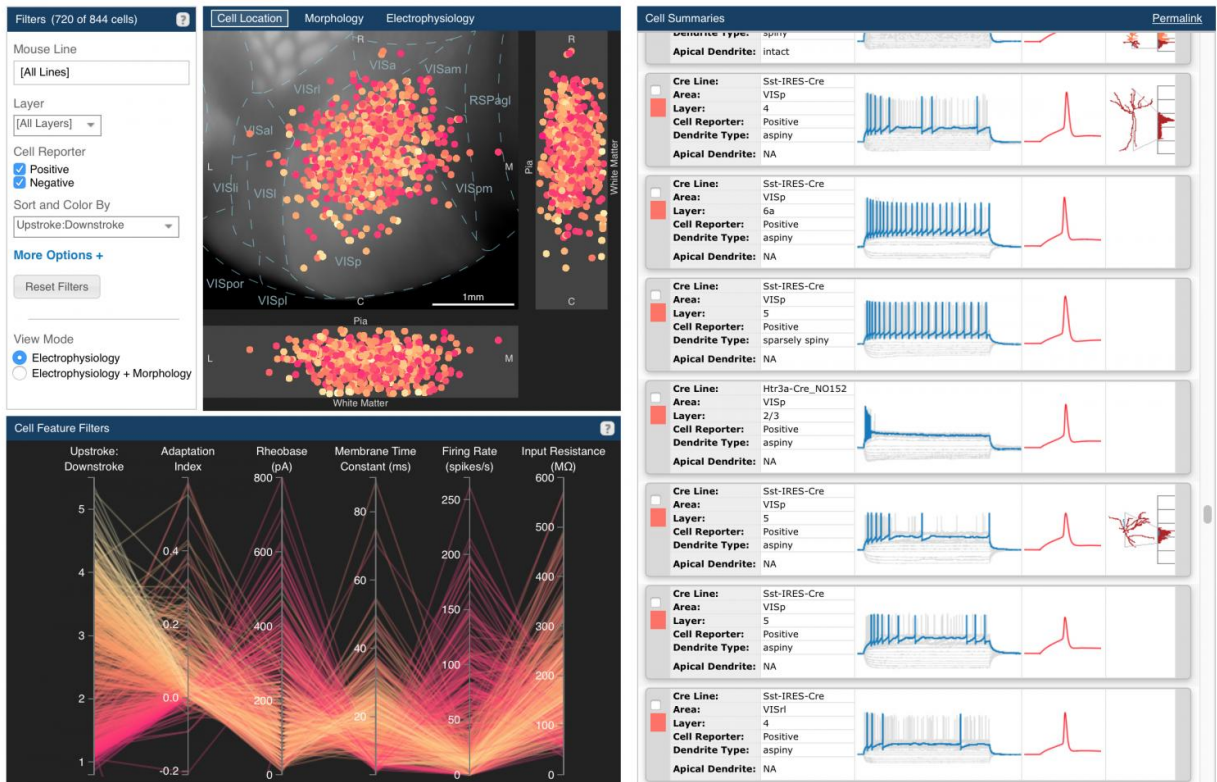# Allen Cell Types Database updated with new data and models

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Users of the Allen Cell Types Database can explore the morphological and electrophysiological properties of individual neurons from the mouse visual cortex. Credit: Allen Institute

The Allen Institute for Brain Science has released additional data and computer models of cell activity for inclusion in the Allen Cell Types

Database: a publicly available tool for researchers to explore and understand the building blocks of the brain.

"Comprehensive coverage of hundreds to thousands of cells will be crucial for scientists who want to explore the diversity of nerve cells in the brain, and provides a base from which we can parse cells into meaningful types," says Lydia Ng, Ph.D., Senior Director of Technology at the Allen Institute for Brain Science. "This release is one more step in building a fundamental framework to help make advancements in neuroscience."

Models serve as a critical link between observed data and theories about how cells work, enabling scientists to understand the mechanisms that give rise to neuron function. Two types of models have been added and updated as part of this release. The first set are models that reduce the complexity of neurons and use cell measurements to "predict" the activity and function of those cells, which are now available for 633 neurons in the database.

Additionally, more sophisticated neuronal models based on cell shape, morphology and subcellular components are now available for hundreds of neurons via an interactive web browser.

The Allen Cell Types Database contains detailed descriptive features gathered from individual neurons in the mouse brain, including location, electrical activity and shape. For this release, electrophysiological recordings from an additional 130 cells from the cortex have been added to the database.

The Allen Cell Types Database (celltypes.brain-map.org) is a fundamental resource of the Allen Institute's ten-year plan to understand how activity in the brain leads to perception, decision-making and action. Understanding cell types—the brain's building blocks—is critical

to making sense of both how the healthy brain functions and what goes wrong in diseases such as autism, Alzheimer's and Parkinson's.

Additional updates to Allen Brain Atlas resources are planned for June and October of 2017.

More information: celltypes.brain-map.org/

Provided by Allen Institute for Brain Science

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