ALLEN INSTITUTE for BRAIN SCIENCE

EMBARGOED FOR RELEASE UNTIL JUNE 21, 2017 AT 12:01AM PACIFIC TIME

ALLEN INSTITUTE FOR BRAIN SCIENCE RELEASES NEW DATA AND VISUALIZATIONS FOR ALLEN BRAIN OBSERVATORY

Improved algorithms, new biometrics and refreshed data make information about the brain's response to visual stimuli more accurate

SEATTLE, WASH. — June 21, 2017 — The Allen Institute for Brain Science today announced the release of new data and analysis tools for the Allen Brain Observatory: a highly standardized survey of cellular-level neuronal activity in the mouse visual system. In addition to bringing the total number of cells surveyed to nearly 40,000, the release includes key improvements to algorithms that decrease noise and match cells across experiments, leading to a more robust and usable resource for researchers around the world to study how visual information is processed in the brain.

"The data contained in the Allen Brain Observatory is vast and rich, and as we produce and share the data we are always thinking of ways to make it as usable as possible while retaining its complexity and multidimensionality," says Lydia Ng, Ph.D., Senior Director of Technology at the Allen Institute for Brain Science. "These updates to the Allen Brain Observatory—the new data and refreshed analysis—will be of great utility to our users, since they provide critical improvements to how the data are presented."

As part of the release, activity from more than 13,000 new cells have been added to the dataset, and data from all previous cells has been reprocessed to incorporate additional features, including tracking the position of the mouse's gaze during experiments. Allen Institute scientists also improved how individual cells are aligned across different experiments, and how signals from overlapping cells can be separated.

The Allen Brain Observatory also added new visualizations, including tools for receptive fields that show how neurons respond to visual information in space. All the new analysis tools are also available as part of the Allen Software Development Kit (SDK), which can be used to analyze the data in depth.

This release marks the final update to the Allen Brain Observatory dataset for 2017, with updates to other Allen Brain Atlas resources planned for the fall.

About the Allen Institute for Brain Science

The Allen Institute for Brain Science is a division of the Allen Institute (alleninstitute.org), an independent, 501(c)(3) nonprofit medical research organization, and is dedicated to accelerating the understanding of how the human brain works in health and disease. Using a big science approach, the Allen Institute generates useful public resources used by researchers and organizations around the globe, drives technological and analytical advances, and discovers fundamental brain properties through integration of experiments, modeling and theory. Launched in 2003 with a seed contribution from founder and philanthropist Paul G. Allen, the Allen Institute is supported by a diversity of government, foundation and private funds to enable its projects. Given the Institute's achievements, Mr. Allen committed an additional $300 million in 2012 for the first four years of a ten-year plan

to further propel and expand the Institute's scientific programs, bringing his total commitment to date to $500 million. The Allen Institute for Brain Science's data and tools are publicly available online at brain-map.org.

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