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ALLEN INSTITUTE FOR BRAIN SCIENCE ANNOUNCES FIRST MAJOR DATA RELEASE FROM ITS BRAIN ATLAS

Atlas Will Further Research into Brain Function, Behavior and Diseases Worldwide

SEATTLE – DEC. 13, 2004 – The Allen Institute for Brain Science (AIBS) announced today the first major data release from its Allen Brain Atlas, a neurogenomic atlas of the mouse brain which will be used to advance research into human brain function, behavior and diseases. AIBS is releasing gene expression data for nearly 2,000 genes (about 10% of the mouse genome), together with tools to analyze the data at www.brainatlas.org or www.brain-map.org.

As approximately 90% of the mouse genome is the same as the human genome, the mouse brain and the Allen Brain Atlas findings offer a gateway to understanding the human brain.

“By studying the normal development and function of the brain in this detail, the Atlas will give researchers additional insight and understanding into the role of genetics in how the brain works and is constructed, as well as various brain diseases and disorders,” said investor and philanthropist Paul G. Allen, who founded the Allen Institute for Brain Science with a \$100 million seed commitment in Sept. 2003. “This groundbreaking initiative is at the intersection of neuroscience and genomics. With our commitment to make the Atlas findings publicly available and accessible, the project will support the work of thousands of researchers worldwide.”

The Allen Brain Atlas is mapping the usage, or expression, of the mouse genome onto known brain anatomy to reveal which genes are turned on in different brain regions.

“Well studied brain diseases in humans, such as Parkinson’s or Huntington’s disease, involve specific neuroanatomic regions of the brain. Using the Allen Brain Atlas data, we have already uncovered additional genes not formerly known to function in these areas. These kinds of discoveries ultimately lead to a better understanding of disease, degenerative illness and their potential therapies” said Dr. Allan Jones, senior director, Atlas Operations at AIBS.

Founders

Paul G. Allen
Jody Patton

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This first data release from the Atlas allows researchers to search for genes by gene name, and to examine expression of each gene across the entire brain. It also includes a reference atlas that allows researchers to identify specific brain regions that use a particular gene.

Future releases will permit structure-based queries. For example, a researcher might want to view genes that are only turned on in functionally important brain regions such as the hippocampus or hypothalamus. Most of the genes included in this first data release were selected because they were of high interest or were predicted to be expressed at high levels in the brain.

The Allen Brain Atlas uses a technique called *in situ* hybridization to indicate where each gene being studied is turned on in a series of tissue sections taken at regular intervals throughout the brain. The end product of this technique is a purple precipitate that fills cells utilizing each gene. These stained sections are then photographed under a microscope, and the data is uploaded onto the ABA server for display on a Web-based image browser. Even with considerable automation, the project will likely take another year and half to complete. Current estimates suggest that the Atlas will contain about one petabyte (one thousand trillion bytes) of data when it is completed, roughly the equivalent of all the information on the Internet one year ago.

“The Atlas already contains a wealth of genomic and neuroanatomical data, and we are working to create data mining tools to enable scientists to take full advantage of its research potential,” Jones added.

About the Allen Institute for Brain Science

Based in Seattle, the Allen Institute for Brain Science (AIBS) was founded in Sept. 2003 with a \$100 million commitment from investor and philanthropist Paul G. Allen to identify and address key issues in neuroscience, specifically those that can ultimately advance our understanding of human behavior. Through strategic partnerships and collaborations, the Institute will focus its efforts and resources on multidisciplinary research and development projects in neuroscience, psychology and behavioral studies, with an emphasis on understanding cognition, language, emotion and memory. The Institute’s first project is the Allen Brain Atlas, online at www.brainatlas.org.

About Paul G. Allen

Philanthropist and investor Paul G. Allen creates and advances world-class projects and high-impact initiatives that change and improve the way people live, learn, work and experience the

world through arts, education, entertainment, sports, business and technology. He co-founded Microsoft with Bill Gates in 1976, remained the company's chief technologist until he left Microsoft in 1983, and is the founder and chairman of Vulcan Inc. and chairman of Charter Communications (a broadband multimedia company). In addition, Allen's multibillion dollar investment portfolio includes large stakes in DreamWorks SKG, DreamWorks Animation, Oxygen Media, Digeo, and many other technology, media and content companies. Allen also owns the Seattle Seahawks NFL and Portland Trail Blazers NBA franchises.

Named one of the top 10 philanthropists in America, with lifetime giving totaling more than \$800 million, Allen gives back to the community through the Paul G. Allen Family Foundation, which supports the arts, health and human services, educational opportunities for youth, and science and technological innovations that expand our understanding of the universe. Allen is founder of Experience Music Project, Seattle's critically-acclaimed interactive music museum, the Science Fiction Museum and Hall of Fame, and Vulcan Productions, the independent film production company behind Todd Haynes' critically-acclaimed *Far From Heaven*, the 2001 *Evolution* series on PBS, and last year's award-winning *The Blues* series, executive produced by Martin Scorsese in conjunction with Allen and Jody Patton. Learn more about Allen online at www.vulcan.com and www.pgafamilyfoundation.com.

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