

ABOUT THE ALLEN SPINAL CORD ATLAS

ABOUT THE ATLAS	The Allen Spinal Cord Atlas is the world's first genome-wide map of the mouse spinal cord detailing approximately 20,000 genes at the cellular level. The atlas is free and available on the Internet to encourage widespread scientific use.
PROFOUND IMPLICATIONS	<p>Since mice and humans share approximately 90 percent of genes, and the mouse is a well-established model for the study of human diseases, the Allen Spinal Cord Atlas will provide scientists and physicians with an expanded foundation of knowledge to discover new treatments for numerous diseases and disorders, including:</p> <ul style="list-style-type: none"> • ALS or Lou Gehrig's Disease—affecting ~30,000 Americans (<i>The ALS Association</i>) • Spinal Muscular Atrophy—affecting ~1 in 6,000-10,000 infants (<i>SMA Foundation</i>) • Multiple Sclerosis—affecting ~2.5 million people worldwide (<i>National Multiple Sclerosis Society</i>) • Spinal Cord Injury—~ 12,000 new cases in the U.S. each year (<i>National Spinal Cord Injury Statistical Center</i>); since the beginning of the Iraq War, more than 16,000 troops have received severe spinal cord injuries (Congressman Dutch Ruppersberger—Maryland)
KEY FEATURES	<p>Until now, the scientific community's efforts to research spinal cord injury and disease have been hindered by the absence of a full picture of gene activity in the normal spinal cord. Key features of the completed Allen Spinal Cord Atlas will include:</p> <ul style="list-style-type: none"> • Genome-wide coverage • Data from both juvenile and adult stages • Surveys across the full length of the spinal cord • Anatomical reference images • Free, public online access
ORIGIN	The Allen Spinal Cord Atlas project was proposed by scientists in the spinal cord community following the completion of the Allen Institute's groundbreaking inaugural project, the Allen Brain Atlas.
GATHERING DATA	Using an integrated pipeline of laboratory, imaging and computer systems, the atlas is produced using a process that pinpoints where a gene is expressed, or "turned on," in the spinal cord. Digital photographs are obtained with automated microscopes and incorporated into the free, Web-based viewing application.
HOW IT WILL BE USED	A large group of scientists from throughout the research community is expected use the atlas to advance understanding of the spinal cord in health and disease. The atlas will provide an essential normal baseline for comparison with models of spinal cord injuries and diseases found in humans, thereby expediting the search for specific disease mechanisms and promising therapeutic targets for new drug development.

FUNDING	<p>The project was made possible through the Institute's unique funding model designed to transform public, private and foundation funds into open community resources that fuel a diversity of breakthrough scientific discoveries. Generous donors include:</p> <ul style="list-style-type: none"> • The ALS Association • PVA Research Foundation • Wyeth Research • PEMCO Insurance • National Multiple Sclerosis Society • International Spinal Research Trust • Philanthropist Paul G. Allen • Other anonymous donors
WEB SITE	<p>To learn more about the Allen Institute for Brain Science and its projects, visit www.alleninstitute.org.</p> <p>To access the Allen Spinal Cord Atlas, go to the Allen Brain Atlas projects main page at www.brain-map.org.</p>
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