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For Immediate Release

**RED HERRING SELECTS AVALON PHARMACEUTICALS
FOR PRESTIGIOUS RED HERRING TOP 100 INNOVATORS AWARD**

Award Recognizes 100 Companies That Embody Innovation

Germantown, MD - December 8, 2004 – Avalon Pharmaceuticals, Inc., a company that utilizes an innovative forward chemical genetics approach to create safer and more effective small molecule medicines – focused in the area of cancer, announced today that it has been selected as a Top 100 Innovator by Red Herring.

“We are honored to be part of the Top 100 Innovators selected by Red Herring,” commented Kenneth C. Carter, Ph.D. President and Chief Executive Officer of Avalon Pharmaceuticals, Inc. “We are at an exciting stage of discovering novel targets and biomarkers to produce the next generation of cancer medicines through the use of our unique and proprietary forward chemical genomics-based methods.”

“Selection for the Innovation 100 puts a company in an elite group. The editors worked hard to identify the companies who will benefit from the important technology trends in the coming year,” said Joel Dreyfuss, Editor-in-Chief of Red Herring.

Red Herring’s editorial staff evaluated over 1,200 submissions from 900 public and private companies. The editors used a careful analysis of financial data as well as subjective criteria, including quality of management, execution of strategy, and dedication to research and development.

About Avalon Pharmaceuticals

Avalon Pharmaceuticals utilizes unique and proprietary forward chemical genomics-based methods to accelerate the discovery of novel targets, biomarkers and drugs. Avalon's unique capabilities in cytogenetics and gene expression analysis allow Avalon to rapidly discover and validate novel oncology targets. For the discovery of small molecules Avalon utilizes a comprehensive systems approach, enabling more informed decisions at earlier stages in the drug discovery process. These innovative techniques allow for the rapid identification of lead

compounds through an enriched understanding of the mechanism of action within diseased cells, leading to accelerated medicinal chemistry driven lead optimization programs and clinical development. This revolutionary systems approach is applicable across multiple disease areas. Currently, Avalon is focusing its efforts to produce the next generation of cancer medicines. Avalon Pharmaceuticals was established in 1999 and is headquartered in Germantown, Maryland.

For more information please visit www.avalonrx.com

About Red Herring

Red Herring covers technology innovation, venture financing, and the deals that make a difference. Its award-winning journalists go deeper, providing a comprehensive, critical analysis of what's new and why it matters. Red Herring covers the business trends with insight that counts, serving today's entrepreneurs and the technology of tomorrow. For more information, contact Red Herring at info@redherring.com or 650.428.2900.

This press release includes forward-looking statements based on Avalon's management's current expectations. Factors that could cause future results to differ materially from such expectations include, but are not limited to: the ability to secure future funding; the success of the Companies' research strategies; the applicability of the discoveries made therein; the difficulties inherent in the development of pharmaceuticals, including uncertainties as to the timing and results of preclinical studies; delayed achievements of milestones; reliance on collaborators; uncertainty as to whether the Companies' potential products will succeed in entering human clinical trials and uncertainty as to the results of such trials; uncertainty as to whether adequate reimbursement for these products will exist from the government, private healthcare insurers and third-party payors; and the uncertainties as to the extent of future government regulation of the pharmaceutical business.

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