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**GENVEC TECHNOLOGY DEMONSTRATES SELECTIVE
ANTI-CANCER ACTIVITY**

GAITHERSBURG, MD – September 20, 2007 – GenVec, Inc. (Nasdaq: GNVC) announced today the publication of pre-clinical research demonstrating the selective delivery of TNF-alpha to tumors. Combining a new, targeted adenovector with selective regulation of gene expression achieved a high degree of anti-tumor activity and selectivity in animal models of disseminated ovarian cancer.

The paper, *Experimental Treatment Of Ovarian Cancers By Adenovirus Vectors Combining Receptor Targeting And Selective Expression Of Tumor Necrosis Factor*, authored by GenVec scientist Selva R. Murugesan, Ph.D., appears in the October issue of the *International Journal of Oncology*, (31: 813-822, 2007). It describes how GenVec technology was used to modify the structure of adenovectors to control both their ability to selectively bind to ovarian cancer cells and enhance the expression of TNF alpha protein in tumor cells. Results demonstrated that the modified adenovector induced anti-tumor responses and limited expression of TNF in normal tissue. These highly selective adenovectors may provide the basis for a potentially safe and effective treatment for cancers of the peritoneal space including ovarian and stomach cancers.

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“Our new generation adenovector uses a combination of technologies which enable targeted delivery of our drug specifically to the tumor and control of gene expression within the tumor cells, avoiding toxicity in surrounding healthy tissue. This is an excellent example of how GenVec’s technology can be applied to provide new treatment strategies,” commented C. Richter King, Ph.D., GenVec’s Senior Vice President of Research.

About GenVec

GenVec, Inc. is a biopharmaceutical company developing novel therapeutic drugs and vaccines. GenVec’s lead product, TNFerade™ is currently in a pivotal clinical study (PACT) in locally advanced pancreatic cancer. Additional clinical trials are in progress in rectal cancer, head and neck cancer and melanoma. GenVec also uses its proprietary adenovector technology to develop vaccines for infectious diseases including HIV, malaria, foot-and-mouth disease, respiratory syncytial virus (RSV), and influenza. Additional information about GenVec is available at www.genvec.com and in the company’s various filings with the Securities and Exchange Commission.

Statements herein relating to future financial or business performance, conditions or strategies and other financial and business matters, including expectations regarding future revenues and operating expenses, are forward-looking statements within the meaning of the Private Securities Litigation Reform Act. GenVec cautions that these forward-looking statements are subject to numerous assumptions, risks and uncertainties, which change over time. Factors that may cause actual results to differ materially from the results discussed in the forward-looking statements or historical experience include risks and uncertainties, including the failure by GenVec to secure and maintain relationships with collaborators; risks relating to the early stage of GenVec’s product candidates under development; uncertainties relating to clinical trials; risks relating to the commercialization, if any, of GenVec’s proposed product candidates; dependence on the efforts of third parties; dependence on intellectual property; and risks that we may lack the financial resources and access to capital to fund our operations. Further information on the factors and risks that could affect GenVec’s business, financial conditions and results of operations, are contained in GenVec’s filings with the U.S. Securities and Exchange Commission (SEC), which are available at www.sec.gov. These forward-looking statements speak only as of the date of this press release, and GenVec assumes no duty to update forward-looking statements.

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