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**ENCOURAGING PHASE II DATA ON HIV VACCINE UTILIZING GENVEC
TECHNOLOGIES PRESENTED AT SEATTLE AIDS CONFERENCE**

GAITHERSBURG, MD – August 23, 2007 – GenVec, Inc. (Nasdaq: GNVC) announced that results from multiple ongoing clinical trials utilizing its adenovector vaccine technologies were presented yesterday at the AIDS Vaccine 2007 Conference taking place in Seattle, Washington this week. The trials, which are investigating a DNA prime-adenoviral vector boost strategy, incorporate a multiclade rAd5 HIV-1 vaccine developed by GenVec in collaboration with the Vaccine Research Center (“VRC”), National Institute of Allergy and Infectious Diseases, National Institutes of Health (“NIH”).

Dr. Richard Koup of the VRC, delivered an oral presentation, “Update on Safety and Immunogenicity of VRC Products,” summarizing data from several ongoing studies sponsored by the NIH’s HIV Vaccine Trials Network (“HTVN”), the International AIDS Vaccine Initiative (“IAVI”) and the U.S. Military HIV Research Program (“USMHRP”) using the DNA prime-boost regimen. Dr. Koup characterized a strong vaccine induced cytotoxic (CD8+) T-cell response targeting HIV-infected cells, confirming the underlying concept of this vaccine. In the TRIAD Phase II trial, immunogenicity was achieved in approximately seventy percent of the vaccinated population. Importantly, the effect of pre-existing Ad5 immunity on immunogenicity of the vaccine appeared to be small.

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More than ten abstracts, posters, and presentations were presented by the VRC and its collaborators at this conference.

“The Phase 2 trials have generated a tremendous amount of information on clinical application of adenovirus vectors as vaccines. These data strongly support the use of GenVec adenovirus vectors as vaccines for HIV and other diseases,” commented Dr. Rick King, GenVec’s Senior VP 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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