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GENVEC REDUCES COSTS TO PRESERVE CAPITAL

GAITHERSBURG, MD — January 29, 2009 — GenVec, Inc. (Nasdaq: GNVC) announced today that it is lowering its operating costs in order to increase the Company's efficiency, including eliminating 22 positions. These changes, effective immediately, reduce the Company's workforce to 101 positions, and have been made to lower the Company's expenses during this period of unfavorable economic conditions. The Company expects that lowering costs, in addition to revenues from funded collaborations, will provide the company with approximately 18 to 24 months of operating capital.

Douglas Swirsky, GenVec's Senior Vice President and Chief Financial Officer, noted that GenVec needs to reduce spending in order to maximize the utility of GenVec's capital. "We regret having to reduce GenVec's workforce," said Swirsky, "but in response to the current economic climate we must reduce spending." GenVec will continue efforts to increase revenues through additional collaborations, including a partnership around GenVec's lead product candidate, TNFerade™.

In addition to workforce reductions, GenVec will also be lowering its operating costs to conserve cash and become more operationally efficient. "We are also focusing on reducing overhead expenses and discretionary spending," Swirsky stated. "These cost reductions will allow us to continue the development of TNFerade as we explore partnership opportunities for the program."

TNFerade is being developed for the treatment of cancer and is currently being used in PACT, a Phase III trial in patients with locally advanced pancreatic cancer. In November 2008, the Company announced interim survival data from this trial conducted after the 92nd death of patients that had

participated in the trial. The next interim analysis will be conducted after 184 deaths have occurred (two-thirds of total expected events) in the trial. Over 220 patients have now been enrolled in the trial, and top-line data from this next interim analysis is now expected to be available in the first quarter of 2010.

GenVec ended the year with approximately \$17.4 million in cash, cash equivalents, and short term investments. Approximately \$0.26 million of expenses are expected to be incurred in the first quarter of 2009 due to the costs of reducing GenVec's workforce.

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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