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FOR IMMEDIATE RELEASE:

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GENVEC REPORTS FIRST QUARTER 2008 FINANCIAL RESULTS

GAITHERSBURG, MD – May 8, 2008 – GenVec, Inc. (Nasdaq:GNVC) today announced its financial results for the first quarter ended March 31, 2008.

GenVec reported a net loss of \$6.3 million (\$0.08 per share) compared to a net loss of \$6.0 million (\$0.08 per share) in the comparable quarter of 2007.

Revenue for the first quarter increased 28% to \$3.7 million from \$2.9 million in the same period last year primarily due to revenue associated with GenVec's collaboration with the Department of Homeland Security for the development of vaccines against foot-and-mouth disease. This increase was partially offset by decreased revenues associated with the Company's HIV vaccine development program.

Operating expenses for the first quarter of 2008 increased 11% to \$10.1 million from \$9.1 million for the same period last year, primarily due to higher clinical costs related to GenVec's TNFerade pancreatic clinical trial, materials costs related to manufacturing of TNFerade, and increased personnel costs.

GenVec ended the first quarter of 2008 with \$19.4 million in cash and investments. In April, GenVec sold 1,682,616 shares of its common stock for net proceeds of approximately \$2.9 million pursuant to the terms of its committed equity financing facility with Kingsbridge Capital Ltd.

"The first quarter of 2008 was an operationally productive period for GenVec," commented Douglas J. Swirsky, GenVec's Senior Vice President and Chief Financial Officer, "During the quarter, we clarified the development plan for TNFerade and established a cost effective manufacturing plan for the product."

Recent Business Highlights

TNFERade for Cancer:

- As of April 30, 2008, 159 patients have been enrolled in the Company's pivotal trial of TNFERade in locally advanced pancreatic cancer (the PACT study), at 41 participating sites across the U.S.
- GenVec reached an understanding with the U.S. Food and Drug Administration (FDA) to utilize overall survival as the primary endpoint for the PACT study. Two additional analyses of overall survival will be conducted after 92 and 184 events, or deaths, have occurred.
- The Company entered into a manufacturing and development agreement with Cobra Biomanufacturing for the technology transfer, scale-up, and validation of the manufacturing process for TNFERade.
- GenVec presented preclinical data illustrating TNFERade's activity when used in combination with gemcitabine in models of pancreatic cancer at the annual meeting of the American Association of Cancer Research.

Vaccine Programs:

- GenVec received a grant from the National Institute of Allergy and Infectious Diseases (NIAID) of the National Institutes of Health (NIH) to support the Company's malaria vaccine program.
- GenVec received a grant from the NIAID to fund the development of vaccines against HSV-2, the virus responsible for most cases of genital herpes.

Other Developments:

- Kevin Rooney was appointed to the Board of Directors, bringing significant pharmaceutical product commercialization experience and insight to GenVec.

Conference Call Information

GenVec will host its quarterly conference call at 10:00 a.m. Eastern time tomorrow. To listen to the live conference call, please dial 888-713-4218 (U.S. or Canada) or 617-213-4870 (international) and use access code 73552989. Participants may pre-register for the call anytime at: <https://www.theconferencingservice.com/prereg/key.process?key=PBWGY6RTV>. Pre-registrants will be issued a PIN number to use when dialing into the live call, which will provide quick access to the conference. An audio replay of the conference call will be available starting at 12:00 p.m. on May 9, 2008 through May 16, 2008. To listen to the audio replay, dial 888-286-8010 (U.S. or Canada) or 617-801-6888 (international) and use access code 98825947.

A live webcast of the conference call will be available on the Company's website and will be archived for 30 days. To access the webcast or the replay, go to www.genvec.com, click on "Investor Relations," and click on "Webcasts and Data."

About GenVec

GenVec, Inc. is a biopharmaceutical company developing novel therapeutic drugs and vaccines. GenVec's lead product candidate, TNFERade™, is currently in a pivotal clinical study (PACT) in locally advanced pancreatic cancer and is being evaluated in additional clinical trials in other

tumor types. GenVec also uses its proprietary adenovector technology to develop vaccines for infectious diseases including HIV, malaria, foot-and-mouth disease, respiratory syncytial virus (RSV), HSV-2, 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.

(Tables to Follow)

GenVec, Inc.
Condensed Statements of Operations
(in thousands, except per share data)

	<u>Three Months Ended</u>	
	<u>March 31,</u>	
	<u>2008</u>	<u>2007</u>
	<u>(Unaudited)</u>	
Revenue from strategic alliances and research contracts	\$ 3,729	\$ 2,903
Operating expenses:		
Research and development	7,693	6,638
General and administrative	<u>2,440</u>	<u>2,484</u>
Total operating expenses	<u>10,133</u>	<u>9,122</u>
Loss from operations	(6,404)	(6,219)
Interest income	261	409
Interest expense	<u>(117)</u>	<u>(191)</u>
Net loss	<u>\$ (6,260)</u>	<u>\$ (6,001)</u>
Basic and diluted loss per share	<u>\$ (0.08)</u>	<u>\$ (0.08)</u>
Shares used in computing basic and diluted net loss per share	<u>75,401</u>	<u>73,460</u>

GenVec, Inc.
Selected Balance Sheet Information
(in thousands)

	<u>March 31,</u>	<u>December 31,</u>
	<u>2008</u>	<u>2007</u>
	<u>(Unaudited)</u>	
Cash and investments	\$19,398	\$23,660
Working Capital	11,769	17,478
Total assets	26,063	28,348
Stockholders' equity	12,483	18,110

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