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GENVEC DISCONTINUES PHASE 3 CLINICAL TRIAL OF TNFERADE™

Interim Analysis Indicates PACT Trial Will Not Meet Efficacy Endpoint

Conference Call Scheduled for Tomorrow, March 30, 2010, at 8:30AM EDT

GAITHERSBURG, MD – March 29, 2010 – GenVec, Inc. (NASDAQ: GNVC) announced today that it is discontinuing its Phase 3 clinical trial of TNFerade™ in patients with locally advanced pancreatic cancer based on results of an interim analysis. This interim analysis of overall survival, conducted after the 184th death (two-thirds of total expected events), was designed to determine whether the study should continue.

GenVec has determined, after conferring with its independent Data Safety Monitoring Board, that the PACT trial would not meet the goal of demonstrating persuasive evidence of clinical effectiveness that could form the basis for regulatory approval in the population chosen for study. This randomized, controlled trial compared treatment with TNFerade (in combination with standard of care (SOC)) to SOC alone in patients with locally advanced pancreatic cancer.

These interim data demonstrated an approximately 8% lower risk of death in the TNFerade plus SOC arm relative to the SOC alone (hazard ratio= 0.921; 95% Confidence Interval [0.678 –1.252]). Accordingly, these data strongly suggest the trial will not achieve the statistical significance required to form the basis for approval of a biological license application in the population chosen for study, thereby warranting discontinuing the trial.

The Company is in the process of notifying the investigators and regulatory agencies of the discontinuation of the PACT trial.

“We are disappointed that the PACT trial did not provide sufficient evidence of the clinical effectiveness of TNFerade to warrant completion of the trial,” said Mark Thornton, M.D., Ph.D., Senior Vice President of Product Development at GenVec. “We will, of course, continue to follow the patients currently enrolled in the trial and are conducting additional analyses of the data from the trial and expect that the

results will be presented in the future at an appropriate scientific meeting.”

“We are very disappointed with the data, particularly given the lack of adequate treatments for pancreatic cancer. For this reason, among others, including the significant resources committed by the Company to this program over the past several years, we will continue to analyze the data from PACT in order to assess the future strategic value of TNFerade to the Company. We acknowledge and thank the patients and investigators who participated in this trial,” said Paul H. Fischer, Ph.D., President and Chief Executive Officer at GenVec. “As our shareholders know, in addition to TNFerade our research and development pipeline consists of a number of funded vaccine programs based on our industry-leading technology. At this time, we will continue to focus on those programs and supporting our collaboration with Novartis to develop treatments for hearing loss,” he added.

About PACT

GenVec’s PACT trial was a multi-center, randomized, active, and controlled study of 330 patients designed to evaluate the safety and efficacy of TNFerade plus standard of care versus standard of care alone in patients with locally advanced pancreatic cancer.

About Hazard Ratios

The hazard ratio is an estimate of the treatment effect in the treated versus the control group in a trial. The hazard ratio reported means that, at the time of the interim analysis, a TNFerade patient had 0.921 times the chance of dying compared to someone in the standard of care group. The reciprocal of this hazard ratio, 1.086, means that a standard of care patient had 1.086 times the chance of dying compared to someone in the TNFerade group.

About TNFerade™

TNFerade, which has not yet been approved for use, is an adenovector, or DNA carrier, which contains the gene for tumor necrosis factor-alpha (TNF α), an immune system protein, for direct injection into tumors. After administration, TNFerade stimulates the production of TNF α in the tumor.

About GenVec

GenVec, Inc. is a biopharmaceutical company developing novel therapeutic drugs and vaccines. GenVec uses its proprietary adenovector technology to develop TNFerade for the treatment of certain cancers and vaccines for infectious diseases including influenza, HIV, malaria, foot-and-mouth disease, respiratory syncytial virus (RSV), and HSV-2. GenVec also discovers and develops novel treatments for hearing loss and balance disorders through a worldwide collaboration with Novartis. Additional information about GenVec is available at www.genvec.com and in the Company’s various filings with the Securities and Exchange Commission.

Conference Call Information

GenVec will host a conference call tomorrow, March 30, 2010, at 8:30 a.m. EDT. To listen to the live conference call, please dial 866-356-4441 (U.S. or Canada) or 617-597-5396 (international) and use access code 90305242. An audio replay of the conference call will be available starting at 11:30 a.m. on March 30, 2010 through April 6, 2010. To listen to the audio replay, dial 888-286-8010 (U.S. or Canada) or 617-801-6888 (international) and use access code 22567966.

Statements in this press release relating to future expectations concerning clinical trials or drug approvals, business conditions or strategies and other business matters, 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 that 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 GenVec's financial condition and ability to raise capital to fund clinical programs and future operations; certain of GenVec's product candidates being in the early stages of development; uncertainties with, and unexpected results and related analyses relating to clinical trials of GenVec's product candidates; the timing, amount, and availability of revenues from GenVec's government-funded vaccine programs; the timing and content of future FDA regulatory actions related to GenVec or its product candidates; GenVec's ability to find collaborators on or commercialize its product candidates; the scope and validity of patent protection for GenVec's product candidates and its ability to commercialize products without infringing the patent rights of others. Additional 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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