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ENCOURAGING DATA FROM MALARIA STUDY PRESENTED

GAITHERSBURG, MD – April 12, 2010 – GenVec, Inc. (Nasdaq: GNVC) announced that encouraging clinical and preclinical malaria vaccine data were presented at the Keystone Symposium—Malaria: New Approaches to Understanding Host-Parasite Interactions taking place April 11–16, 2010 in Copper Mountain, Colorado.

Safety, tolerability, immunogenicity, and efficacy data from the Phase 1/2a malaria trial using GenVec technology were presented. Data indicate malaria vaccines given to malaria-naïve adults were found to be safe and well-tolerated with minimal local or systemic reactions and no serious vaccine-related adverse reactions. Sterile protection, a complete absence of parasites in the blood, was seen in 4 out of 15 volunteers that had been inoculated with the vaccine and subsequently challenged with the malaria parasite.

This clinical trial is being conducted under sponsorship from the United States Army Medical Materiel Development Activity (USAMMDA) and with financial support from the U.S. Agency for International Development, the Congressionally Directed Peer Review Medical Program, and the Military Infectious Diseases Research Program.

“The results of this study are encouraging and we are looking forward to gaining more insight regarding the potential for this vaccine,” stated Dr. Douglas Brough, GenVec’s Vice President of Research.

About Malaria

Malaria is one of the world’s leading lethal infectious diseases. Malaria is a life-threatening disease transmitted to humans through the bite of an infected mosquito. Malaria parasites initially invade liver cells and, after multiplying, release tens of thousands of new parasites, which invade red blood cells, multiply again, and then destroy these cells. High fever, headache, and vomiting appear approximately nine to fourteen days after the infectious bite. If untreated, the infection can progress rapidly and become life threatening—destroying red blood cells, causing severe anemia, and blocking

capillaries that carry blood to the brain, resulting in coma and/or death. Malaria causes approximately 243 million acute illnesses and 863,000 deaths annually, mostly among children under the age of five. Malaria is a major health risk for travelers and the military.

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.

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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