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**PROMISING EARLY DATA FROM PHASE I/II CLINICAL TRIAL USING
GENVEC VACCINE PRESENTED AT MALARIA CONFERENCE**

GAITHERSBURG, MD – September 19, 2007 – GenVec, Inc. (Nasdaq: GNVC) announced today that encouraging data from malaria vaccine studies using the company's adenovector technologies were reported in multiple presentations by scientists representing GenVec and its collaborators at the Malaria Vaccines for the World Conference at the Royal Society of Medicine in London, U.K., September 17-19, 2007.

Data from the first cohort of volunteers in a Phase I/II clinical trial sponsored by the Naval Medical Research Center (NMRC) and the U.S. Military Malaria Vaccine Program showed this malaria vaccine candidate to be well tolerated and that it induced strong T-cell responses against the target antigens in all volunteers. The results were presented by scientists from NMRC. This vaccine, produced using GenVec's proprietary 293-ORF6 cell line and associated manufacturing process, is designed to provide protection against both the liver and blood stages of the parasite. NMRC is now enrolling volunteers to assess the safety and immunogenicity of a higher dose of the vaccine. After establishing that the vaccine is safe and well tolerated at the optimal dose, the next phase will evaluate the protective effects of the vaccine after malaria challenge. The ability to safely challenge human volunteers provides a unique opportunity to assess efficacy of candidate vaccines prior to field trials.

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Pre-clinical data under a separate GenVec collaboration with the PATH Malaria Vaccine Initiative (MVI) and the NMRC were also presented by scientists from NMRC at the conference. A new malaria vaccine candidate that includes five antigens from both blood and liver stages of the parasite showed robust T-cell and antibody responses to all antigens in animals following delivery of the multivalent adenovectors. These findings are important because GenVec's adenovectors induced high levels of functional antibodies against the blood-stage forms of the malaria parasite. As a result of these observations, two multivalent vectors have been selected for clinical development of new malaria vaccines.

In addition, GenVec scientists presented results of preclinical studies using new Ad5-based vaccine vectors designed to avoid pre-existing antibodies and may be used in prime-boost settings designed to boost the immune response against pathogens.

“The results from these studies are encouraging and support the use of our adenovector technologies in developing effective malaria vaccines. We are excited by the progress of our collaborations and the potential for these programs to advance into later-stage clinical trials,” stated Joseph L. Bruder, Ph.D., GenVec's Director of Vector and Vaccine Programs.

The vaccine used in the clinical trial was developed in collaboration with the NMRC and the clinical trial is being conducted by NMRC at their clinical trials center, located on the campus of the National Naval Medical Center in Bethesda, MD, under sponsorship from the United States Army Medical Materiel Development Activity (USAMMDA), and with financial support from the US Agency for International Development, the Congressionally Directed Peer Review Medical Program, and the Military Infectious Diseases Research Program.

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About Malaria

Malaria is one of the world's three leading infectious disease killers. 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 death.

Malaria causes more than 300 million acute illnesses and more than one million deaths annually, mostly among children under the age of five. Malaria is also a major health risk for travelers and the military.

About the U.S. Naval Medical Research Center

The malaria program at the Naval Medical Research Center (NMRC) as part of the joint U.S. Military Malaria Vaccine Program conducts basic and applied research, development, and clinical evaluations to enhance the health, safety and readiness of soldiers, sailors, airmen and marines in the effective performance of peacetime and contingency missions. NMRC also provides research and development support as required by the Department of Defense. The U.S. Military Malaria Vaccine Program is developing vaccines that prevent malaria infection in military personnel and for the humanitarian mission of providing access to malaria vaccines for those who need it most. Combining pioneering work on molecular vaccine technologies with cutting-edge genomics efforts, NMRC scientists' research efforts are focused on developing and testing "next generation" vaccine delivery systems to tackle one of the most complex vaccine challenges. Additional information is available at <http://www.nmrc/navy.mil>.

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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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