March 6, 2017

Howard Mayer, M.D., of Shire, Joins Genocea Biosciences' Board of Directors

Dr. Mayer brings significant depth of experience in global clinical drug development

CAMBRIDGE, Mass., March 06, 2017 (GLOBE NEWSWIRE) -- Genocea Biosciences, Inc. (NASDAQ:GNCA), a biopharmaceutical company developing T cell-directed vaccines and immunotherapies, today announced that Howard Mayer, M.D., senior vice president and head of global clinical development at Shire plc, has joined its board of directors. Genocea also announced that Kevin Bitterman, Ph.D., a partner at Polaris Partners, will retire as a member of the company's board of directors. Dr. Bitterman served on Genocea's board since the company's founding in 2006.

"It is my great pleasure to welcome Howard to our board of directors," said Chip Clark, president and chief executive officer of Genocea. "As we advance our lead therapeutic vaccine candidate, GEN-003 for the treatment of genital herpes, into pivotal clinical development and prepare to enter the clinic with GEN-009, our neoantigen cancer vaccine, we believe Howard's deep industry and clinical development expertise will prove invaluable to us. At the same time, we would like to express our deep gratitude to Kevin for his years of service on our board. Polaris was one of our founding investors and Kevin has played an important role in the evolution of Genocea from concept to today."

Dr. Mayer commented on his appointment: "I am delighted to be joining the Genocea board and I am excited by the prospect of Genocea advancing the first new treatment for genital herpes patients in nearly 20 years. I also believe the company's ATLAS technology has great potential in immuno-oncology and I look forward to working with the Genocea board and the senior management team to help advance the company's clinical programs."

Dr. Mayer joined Shire in 2012 and is responsible for global clinical development across hematology, immunology, oncology, genetic diseases, GI/metabolic, neuroscience and ophthalmology therapeutic areas. Previously he served as chief medical officer at EMD Serono, a division of Merck KGaA, since 2009. Prior to that, he held a variety of global roles at Pfizer Inc. including head of clinical development and medical affairs for Virology/Infectious Diseases. Prior to joining Pfizer, he served as director of Infectious Diseases Clinical Research at Bristol-Myers Squibb for five years. Dr. Mayer obtained his BA from the University of Pennsylvania and his M.D. from Albert Einstein College of Medicine in New York, which was followed by an internship and residency at Mount Sinai Hospital and an Infectious Diseases fellowship at Harvard Medical School. He currently serves on the scientific advisory boards of Macrolide Pharmaceuticals and Arsanis Biosciences and has served on the board of Autism Speaks in New England since 2011 and on the board of the Melmark Charitable Foundation since 2016. In 2011, he was honored by *PharmaVoice* as one of the 100 Most Inspiring People in the Life Sciences Industry.

About Genocea Biosciences, Inc.
Genocea is harnessing the power of T cell immunity to develop life-changing vaccines and immunotherapies. T cells are increasingly recognized as a critical element of protective immune responses to a wide range of diseases, but traditional discovery methods have proven unable to identify the targets of such protective immunity. Using ATLAS™, its proprietary technology platform, Genocea identifies these targets to potentially enable the rapid development of medicines to address critical patient needs. Genocea's pipeline includes GEN-003, a novel T cell-enabled immunotherapy for genital herpes currently in Phase 2 clinical development, and earlier-stage investments in immuno-oncology. For more information, please visit the company's website at www.genocea.com.

Forward-Looking Statements
Statements herein relating to future business performance, conditions or strategies and other financial and business matters, including expectations regarding clinical developments, are forward-looking statements within the meaning of the Private Securities Litigation Reform Act. Genocea 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 Genocea's ability to progress any product candidates in preclinical or clinical trials; the ability of ATLAS to identify promising oncology vaccine and immunotherapy product candidates; the scope, rate and progress of its preclinical studies and clinical trials and other research and development activities; anticipated clinical trial results; current results may not be predictive of future results; even if the data from preclinical studies or clinical trials is positive, regulatory authorities may require additional studies for approval and the product may not prove to be safe and efficacious; Genocea's ability to enter into future collaborations with industry partners and the government and the terms, timing and success of any such collaboration; risks associated with the manufacture and supply of clinical and commercial product; the cost of filing,

prosecuting, defending and enforcing any patent claims and other intellectual property rights; Genocea's ability to obtain rights to technology; competition for clinical resources and patient enrollment from drug candidates in development by other companies with greater resources and visibility; the rate of cash utilized by Genocea in its business and the period for which existing cash will be able to fund such operation; Genocea's ability to obtain adequate financing in the future through product licensing, co-promotional arrangements, public or private equity or debt financing or otherwise; general business conditions; competition; business abilities and judgment of personnel; the availability of qualified personnel and other factors set forth under "Risk Factors" in Genocea's Annual Report on Form 10-K for the fiscal year ended December 31, 2016 and other filings with the Securities and Exchange Commission (the "SEC"). Further information on the factors and risks that could affect Genocea's business, financial conditions and results of operations is contained in Genocea's filings with the SEC, which are available at www.sec.gov. These forward-looking statements speak only as of the date of this press release and Genocea assumes no duty to update forward-looking statements.

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