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T2 Biosystems Demonstrates First-Ever Ability to Accurately and Rapidly Detect Systemic Candida Infection Directly in Whole Blood in Single-Process Test

- ***Data Presented at Annual Meeting of Mycoses Study Group Demonstrates Rapid Identification of the Most Deadly Form of Common Hospital-Acquired Infections***
- ***Magnetic Biosensor Nanotechnology Enables Universal Detection of Targets on Single Platform***

Lexington, MA (April 7, 2011) – T2 Biosystems, Inc., a company developing next-generation diagnostic products, presented data today on the rapid and sensitive detection of five species of the fungal infection *Candida* at the Annual Meeting of the Mycoses Study Group in Philadelphia, PA.

The data demonstrate the ability of T2 Biosystems' proprietary technology platform to detect *Candida* organisms in whole blood samples in less than two hours from sample to result, with very high sensitivity, specificity and accuracy. This initial data supports the capability for T2 Biosystems' technology to provide significant clinical advantages in time, healthcare cost and associated patient mortality when compared to the currently available multiple-day diagnosis of *Candida* from blood culture. The system utilizes magnetic biosensor nanotechnology that is designed to enable detection of DNA, RNA, protein, small molecules and a number of other targets from a single sample and single platform. The company plans to submit the diagnostic device, including the *Candida* application, for clearance by the U.S. Food and Drug Administration in 2012.

Candidemia, a systemic fungal infection that occurs when *Candida* organisms are present in the blood, is a potentially life-threatening bloodstream infection. Each year, an

estimated 60,000 patients contract candidemia in the United States alone, and this incidence continues to rise. It is the most deadly of the common hospital-acquired bloodstream infections, and currently results in significant increased hospital stays, healthcare costs and patient mortality.

"The current standard of care in *Candida* detection involves analyzing biological samples using culture-based methods that typically take several days to produce a result. During this time, patients are often treated with broad spectrum antibiotics, which introduce additional complications to exacerbate the infection and can lead to significant morbidity and mortality," said Peter Pappas, MD, Principal Investigator of the Mycoses Study Group. "If we rely on current post-culture diagnostic techniques, roughly 40% of patients suffering from candidemia will not survive. This underscores the need for rapid and accurate diagnostics to ensure early and appropriate therapy that can save patient lives."

The T2 Biosystems data presented at the Mycoses Study Group meeting includes an evaluation of more than 400 human whole blood samples spiked with clinical isolates and lab strains for *Candida albicans*, *Candida krusei*, *Candida glabrata*, *Candida tropicalis*, and *Candida parapsilosis*. The tests demonstrate that the T2 Biosystems method was able to detect all five species of *Candida* in whole blood, pre-culture samples with 95% sensitivity and 98% specificity. Additionally, greater than 98% positive agreement with blood culture was demonstrated for over 160 spiked patient samples with clinical isolates and lab strains. These results were reproducible across different days and different patient blood samples.

"The results from our tests to detect *Candida* in whole blood samples in less than two hours are unprecedented and represent a major breakthrough for this deadly fungal infection," said John McDonough, Chief Executive Officer of T2 Biosystems. "This is a terrific example of how T2 Biosystems' technology removes the sample preparation barriers of existing diagnostics to improve patient outcomes by enabling rapid detection directly in whole blood samples for the most challenging diagnostic tests."

T2 Biosystems' magnetic biosensor nanotechnology has been applied to the sensitive detection of a broad range of analytes, including viruses, bacteria, proteins, hormones, DNA, RNA, small molecules and other diagnostic targets, and has been published in over 100 journal articles. The company is developing a pipeline of diagnostic products based on its technology.

About T2's Magnetic Biosensor Technology

Unlike culture based diagnostic methods that utilize optical signals and require preparation of a clean biologic sample, T2's magnetic biosensor technology combines nanotechnology with the power of magnetic resonance detection. A "dirty sample" of a patient's blood, saliva, urine or other biofluid is loaded directly into a desktop instrument via a disposable cartridge. The sample is then mixed with magnetic nanoparticles and analyzed for the presence of specific fungal, bacterial or viral pathogens or biomarkers using a technique similar to magnetic resonance imaging (MRI). The system is able to detect low concentrations of target agents or specific pathogens and present a result to the user within minutes to under two hours.

About Candida Infections

Candidemia is a systemic fungal infection that occurs when *Candida* organisms in the blood spread to organs and tissues throughout the body. An estimated 60,000 patients contract candidemia in the United States each year.[1] While not all cases are hospital acquired, it is the most deadly of the common hospital acquired infections, with a mortality rate of 40% compared to 27% mortality for hospital acquired infections in general.[2,3] In the absence of a rapid, accurate diagnostic, appropriate therapeutic intervention for candidemia is often delayed, resulting in a mortality rate that is three to four times higher than when early, targeted therapy is initiated.[4,5] Patients at high risk for candidemia and systemic *Candida* infection include those with compromised immune systems, transplant recipients, patients on chemotherapy, patients with catheters, patients in critical care units, surgical patients and patients on prolonged antibiotic therapy. Candidemia contributes to an average of 23 additional days in the hospital per patient[6]

and experts estimate that patients who suffer from candidemia cost the U.S. healthcare system nearly $8 billion annually.[1,6,7]

About T2 Biosystems, Inc.

T2 Biosystems is a private biomedical company developing next-generation medical diagnostic products using its proprietary NanoDx™ magnetic biosensor technology platforms to provide rapid, accurate and scalable diagnostics for both centralized and decentralized clinical settings. T2 Biosystems was founded in 2006 by renowned researchers from the Massachusetts Institute of Technology, Harvard University, Harvard Medical School and Massachusetts General Hospital, and has assembled a world class team, board of directors and scientific advisory board that collectively have a proven track record of translating technologic innovations into breakthrough products, building significant corporate value. T2 Biosystems is located in Lexington, Massachusetts. For more information, please visit the company's website at www.t2biosystems.com.

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