

Specific Technologies and FIND Announce Strategic Collaboration to Advance Innovation in Blood Infection Diagnostics

MOUNTAIN VIEW, CALIFORNIA & GENEVA, SWITZERLAND – 21 December 2016 – Specific Technologies and FIND today announced a collaboration to promote the development of new solutions for diagnosis of bloodstream infections in resource-poor environments.

The development of an infection in the bloodstream is the cause of sepsis, a systemic inflammatory response which can be life threatening. The global burden of sepsis is significant. According to recent estimates, 31.5 million cases occur annually, resulting in some 5.3 million deaths.¹ The great majority of these cases occur in lower- and middle-income countries and rank among the leading causes of maternal and neonatal mortality. Sepsis is thought to account for over 10% of maternal deaths and 70% of the 9 million neonatal and infant deaths that occur annually.^{2,3} Survival in low-resource settings largely depends upon rapid detection and administration of appropriate antibiotics, both of which are extremely challenging: current approaches to sepsis diagnosis are labor-intensive and require well-resourced laboratories. Specific Technologies has developed a system called SpecID for clinical microbiology diagnostics that combines pathogen detection with identification in culture, providing substantial advances to existing methods and taking what now is often a highly manual, three-step, two-day process and translating it into a single labor-free instrument that delivers comparable results within 12 hours. This reduction in technician involvement is suited to low- and middle-income countries where technicians trained to perform Gram stains are often unavailable near the point of blood sample collection.

Under the collaboration between Specific Technologies and FIND, work will be done to expand Specific Technologies' species identification library to include additional pathogens that commonly cause bloodstream infections in low- and middle-income countries (LMICs), develop specifications for adapting SpecID to LMICs, and develop a plan to manufacture and validate a new version of the instrument.

"The wide use of broad spectrum antibiotics to treat suspected sepsis not only increasingly fails to save the patient but is driving the evolution of yet more resistant strains," said Catharina Boehme, FIND CEO. "In the era of antimicrobial resistance, we must aim for rapid diagnosis followed by targeted treatment. Increasing access to rapid blood culture for pathogen identification and drug susceptibility testing is thus a major priority, and the SpecID system holds particular promise to address this need in low-resource settings."

"Our agreement with FIND further highlights the broad demand for the rapid evolution of existing blood culture practices around the world," said Paul Rhodes, Chief Executive Officer of Specific Technologies. "While our blood culture paradigm has been designed for developed world microbiology labs, the labor-free nature of its Gram status and species identification functions make it well suited for the constraints of resource-limited regions."

¹ Fleischmann C, et al., Assessment of Global Incidence and Mortality of Hospital-treated Sepsis. Current Estimates and Limitations. *American Journal of Respiratory Critical Care Medicine*. 2016 Feb 1;193(3):259-72.

² Bonet M, et al., New WHO guidance on prevention and treatment of maternal peripartum infections. *The Lancet Global Health*, Volume 3, Issue 11, e667 - e668

³ Tupchong K, et al., Sepsis, severe sepsis, and septic shock: A review of the literature, *African Journal of Emergency Medicine*, Volume 5, Issue 3, September 2015, Pages 127–135

“We look forward to a long and fruitful partnership with FIND where we can together enable broader testing for this important healthcare challenge that so many areas of the globe cannot access due to the technical requirements of existing testing practices,” said Rob Lozuk, President of Specific Technologies.

About the SpecID System

During growth in culture, bacteria produce small molecule volatile metabolites unique to their species and strain. Utilizing a chemical fingerprint that combines detection and identification into a simple, automated single step utilizing a low-cost disposable printed sensory array, the novel SpecID system identifies microorganism species and strain from the metabolomic signature of volatiles produced during growth.

About Specific Technologies

Specific Technologies has developed in vitro diagnostic systems based upon a unique, patented metabolomic signature technology that enables rapid identification of microorganisms. Its first commercial application applies this fundamental new platform to the detection and characterization of microorganisms causing blood stream infection, and to the rapid and low cost phenotypic determination of their antibiotic susceptibility. Specific Technologies is based in Mountain View, CA.

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About FIND

FIND, established in 2003 as a global non-profit, is dedicated to accelerating the development, evaluation and use of high-quality, affordable diagnostic tests for poverty-related diseases, including tuberculosis, malaria, HIV/AIDS, sleeping sickness, hepatitis C, leishmaniasis, Chagas disease, Buruli ulcer, febrile illnesses and infectious diseases with outbreak potential, such as Ebola. Over the last decade, FIND has partnered in the delivery of 14 new diagnostic tools, including eight for tuberculosis, and has created an enabling environment for numerous others through the provision of specimen banks, reagent development and better market visibility.

FIND also supports better access to new diagnostics through implementation, quality assurance and lab strengthening work. FIND has over 200 partners globally, including research institutes and laboratories, health ministries and national disease control programmes, commercial partners, clinical trial sites, and bilateral and multilateral organizations (especially WHO). To learn more, visit www.finddx.org.

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