



## Miraculins Announces Publication of Peer-Reviewed Study that Demonstrates Scout DS<sup>®</sup> is a Viable Alternative to Current Pre-Diabetes and Type 2 Diabetes Screening Methods

Study Shows Scout DS® detects abnormal glucose tolerance just as well as Fasting Plasma Glucose and HbA1c testing without blood draw or fasting

WINNIPEG, Manitoba – July 24, 2014 - Miraculins Inc. (TSX-V:MOM) ("Miraculins" or the "Company"), a medical diagnostic company focused on acquiring, developing and commercializing diagnostic tests and risk assessment technologies for unmet clinical needs, today announces the publication of results from the ENGINE (Evaluation of a Noninvasive Diabetes Screening Device in Subjects at Risk for Diabetes) study, which highlights the effectiveness of the Company's Scout DS® NonInvasive Diabetes Screening Device. The study, which is available online ahead of press publication by the *Journal of Clinical and Translational Endocrinology*, concluded that the elimination of overnight fasting, the absence of blood, and the rapid, real-time communication of screening results are aspects of noninvasive skin fluorescence spectroscopy (Scout DS® measurement) that facilitate opportunistic screening of individuals at risk for type 2 diabetes, while delivering performance that is comparable to fasting plasma glucose and *HbA1c* testing for detection of abnormal glucose tolerance. The published article is entitled "Noninvasive Skin Fluorescence Spectroscopy for Detection of Abnormal Glucose Tolerance".

"While the need for effective primary screening methods for those at risk of developing type 2 diabetes is widely acknowledged, multiple obstacles limit the effectiveness of established blood-based diabetes screening methods," commented John Maynard, Vice-President Scout DS® Technology at Miraculins and a co-author of the study. "The need for a blood draw negatively impacts patient convenience and participation, while the requirement for overnight fasting by certain methods further reduces patient compliance. The need to properly handle and dispose of biohazardous waste generated by blood-based screening methods presents additional challenges in mobile screening settings such as employee wellness clinics or community health fairs."

The ENGINE trial was a prospective, multi-centre study conducted on more than 500 patients at 12 clinical sites in the United States. The purpose of the ENGINE trial was a real-world comparison of Scout DS® to fasting plasma glucose (FPG) and HbA1c (glycated hemoglobin) for type 2 diabetes screening, using a 2-hour oral glucose tolerance test (OGTT) as the reference standard. FPG and HbA1c are common laboratory-based diabetes tests. All members of the study cohort were at risk for type 2 diabetes according to the ADA (American Diabetes Association) guidelines and therefore members of the intended-use population for Scout DS®. The cohort also had a representative mixture of patient age, sex, ethnicity, and BMI (Body Mass Index).

"The publication of this additional peer-reviewed data continues to build upon the mounting evidence that Scout DS<sup>®</sup> can be an effective tool in the war on type 2 diabetes by offering a patient friendly screening method that could increase the likelihood of early stage disease detection," said Christopher J. Moreau, President and Chief Executive Officer of Miraculins.

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