

## **Miraculins Announces Publication of Comprehensive Review Article on Skin Cholesterol and its Link to Increased Cardiovascular Risk**

*Summary of Eleven Key Studies using PreVu<sup>®</sup> POC Test to be  
Published in the Canadian Journal of Cardiology*

**WINNIPEG, Manitoba – September 9, 2013 - Miraculins Inc. (TSX-V:MOM)**, (“Miraculins” or the “Company”) a medical diagnostic company focused on acquiring, developing and commercializing diagnostic and risk assessment technologies for unmet clinical needs, announces today the publication of a review article entitled “The Relationship Between Skin Cholesterol Testing and Parameters of Cardiovascular Risk: A Systematic Review” authored by A. Yashar Tashakkor, MD, and G. B. John Mancini, MD, FRCPC of the Department of Medicine (Division of Cardiology), University of British Columbia.

The article, currently in press and available online, will be published in an upcoming issue of the Canadian Journal of Cardiology. In addition to his role as Professor of Medicine at the University of British Columbia, the senior author, Dr. G. B. John Mancini, is Director, Cardiovascular Imaging Research Core Laboratory (CIRCL) at the University of British Columbia, Department of Medicine, and is Chair of the PreVu<sup>®</sup> Medical Advisory Board. Dr. Mancini has previously published other peer-reviewed papers on skin cholesterol.

The review article reported on eleven key studies testing patients using a non-invasive method of skin cholesterol measurement: the PreVu<sup>®</sup> Non-Invasive Skin Cholesterol Point-of-Care (POC) Test. The results of the systematic review highlighted the new and independent nature of skin cholesterol measurement data, which accordingly does not correlate with traditional markers of cardiovascular disease, such as serum lipid values, but shows a significant relationship with evidence of underlying atherosclerosis as determined by exercise treadmill stress testing (for functional cardiovascular disease), coronary angiography (for coronary artery atherosclerosis), coronary calcium testing (for calcified coronary plaque), and carotid ultrasound testing both for increased intima-media thickening and plaque (for carotid artery atherosclerosis). Data extracted from the unique cohorts were from prospective, observational trials, enlisting a total of 2,336 participants.

“This timely review of multiple studies on skin cholesterol and its relationship to cardiovascular risk, highlighting findings from over 2,300 subjects, will further contribute to the better understanding of the PreVu<sup>®</sup> POC Test and its practical utility as a new tool to assist in coronary artery disease risk assessment,” said Christopher J. Moreau, President and Chief Executive Officer of Miraculins Inc. “The PreVu<sup>®</sup> POC Test has been made available on a limited trial basis over the past year in select Canadian pharmacies as part of a series of pilot screening programs, and the growing awareness of the value of skin cholesterol testing will assist us as we transition from piloting to the national launch of the technology, and its expansion into other markets and territories as well.”

The PreVu<sup>®</sup> POC Test will initially be offered in retail pharmacy settings, providing a convenient first-step in the screening process to individuals unaware of their cardiovascular risk status and who have yet to undergo formal coronary artery disease risk assessment at a physician’s office. This systematic review article provides a foundational scientific reference for all physicians, including those seeing patients subsequent to their taking a PreVu<sup>®</sup> POC Test. It will further assist physicians in interpreting the skin cholesterol test results, which can then be taken into

account, along with their own clinical evaluation of each patient's risk of coronary artery disease, in determining further diagnostic and patient management options.

### **About the PreVu® Non-Invasive Skin Cholesterol Test**

The PreVu® Non-Invasive Skin Cholesterol Point of Care (POC) Test is a non-invasive, risk assessment technology designed to measure skin cholesterol – an emerging biomarker in helping to assess risk of coronary artery disease (“CAD”). The PreVu® POC Test is completely painless, non-invasive, involves no blood draw or needles, and requires no overnight fasting. The test is conducted on the palm of the hand in less than 5 minutes with results being immediately available, facilitating point of care consultation and a next steps discussion. Skin cholesterol is the cholesterol that has been deposited and diffused into tissue, as opposed to freely circulating in the bloodstream, and the skin contains approximately 11% of all the cholesterol found in the human body, by weight. Elevated skin cholesterol has been shown in clinical studies to be strongly associated with an increased risk of significant CAD as measured by treadmill stress testing and coronary angiography, as well as measured by testing for coronary calcium, carotid artery thickening, and carotid artery plaque. The PreVu® POC Test does not diagnose the presence or absence of CAD, but helps to identify patients who may be at higher, hidden risk for CAD by measuring their levels of skin cholesterol. The PreVu® POC Test is not a substitute or replacement for blood serum cholesterol testing. For more information visit [www.prevu.com](http://www.prevu.com).

### **About Miraculins Inc.**

Miraculins is a medical diagnostic company focused on acquiring, developing and commercializing non-invasive technologies for unmet clinical needs. A significant number of promising diagnostic opportunities remain un-commercialized because of the sizable gap between the discovery stage, when research institutions are typically involved, and the commercialization stage, when the larger commercial enterprises become interested. Miraculins has direct experience in bridging this gap. The Company's PreVu® technology is a revolutionary new coronary artery disease risk assessment technology that measures cholesterol levels in a patient's skin non-invasively, painlessly and without the need for fasting. The Company's SCOUT DS® system, is the first non-invasive diabetes screening system designed to provide a highly sensitive and convenient method for screening for pre-diabetes and type 2 diabetes based on the presence of diabetes-related biomarkers found in skin. Unlike current screening methods, a SCOUT DS® test requires no blood draw, no fasting, and no waiting for a lab result. The product has been used and validated in thousands of patients around the world. The Company's preeclampsia program is partnered with Alere Inc., one of the world's largest diagnostic companies. For more information visit [www.miraculins.com](http://www.miraculins.com).

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