165 – 10551 Shellbridge Way
Richmond, BC, V6X 2W8

# BIOMARK DIAGNOSTICS REVIEWS 2019 AND OUTLINES PLANS FOR 2020

**Vancouver, British Columbia – (December 19th, 2019)** – BioMark Diagnostics Inc. ("BioMark") (CSE: BUX) (FSE: 20B) (OTCMKTS: BMKDF) is pleased to provide 2019 round up and our outlook for 2020. Below are key highlights.

## 2019 Round Up

2019 has been a transformative year for BioMark and we anticipate that 2020 would be another pivotal year for the company. Below are key highlights and accomplishments that has set up the stage for an exciting 2020.

*Patent Filed*

- The company filed 4 provisional patents from scientific activities. These patents are critical in protection of our discoveries and valuation of our enterprise.

*Peer Reviewed Publications*

- We had a blockbuster year. We collectively managed to publish 5 manuscripts and have submitted another 2 in December 2019. 1 article was electronically published for the 2019 American Society for Clinical Oncology (ASCO) meeting while the other was featured in the Cancers Journal in July 2019.

*Clinical Trials*

- Trials in both Canada and Bangladesh were completed following the long follow- up studies related to outliers (healthy patients with high levels of Acetyl amantadine). The outcome of the study improved the utility of the Amantadine assay. A submission package has been drafted following a complete review of the study along with all supporting documentation. In addition, relationship with approved medical drug and suppliers have been established. The assay will be used to help physicians zero in on both lung and breast cancers or may later help monitor recurrence for cancer survivors.
- A mini trial has been completed to assess response to treatment following chemo and therapeutic intervention for lung cancer patients using our SSAT assay platform. The objective is to effectively tailor treatment for patients which would result in lower drug cost and better quality of life for the patients. Results are expected in early part of 2020.

- A major retrospective study was conducted to discover and validate a panel of plasma metabolites related to early stage lung cancer. Samples were sourced from IUCPQ and the analysis were conducted at TMIC. A total of 260 samples were analyzed with a focus on detecting early stage I and II lung cancer. The results were strong, and a paper has been submitted to a leading journal focused on lung cancer. The company intends to complete a bigger trial based on statistical analysis in 2020. A total sample size of 1200-1500 will be sourced and analyzed next year. BioMark will be applying for a grant to help offset the cost of the trial. This is discussed below under Grants section.

*Presentations made at:*

- University of Maryland – Dean and his group at the school of medicine

- Grand Rounds Medical Faculty Presentations – Drs. Maksymuik and Sitar presented data on early detection/diagnosis of cancer at the University of Medicine Department of Medicine Grand Rounds.

- Poster presentations abstracts at The Canadian Pharmacology and Therapeutics held in June 2019 Calgary by Dr. Don Miller's group
  a. Abstract Title: Physiologically based pharmacokinetic modeling of amantadine and acetyl amantadine metabolites for potential applications as cancer biomarker.
  b. Abstract Title: Selective Modulation of SSAT1 Expression for Cancer Cell Sensitization and Therapy.

*Global Alliances*

BioMark managed to increase its global network and traveled to China, Japan and United States in search of strategic partners in the medical diagnostic and clinical trial arena. The relationships remain dynamic and several of them have visited BioMark to meet with its scientific and technology group. BioMark was recognized recently by Canadian Trade Commissioner Service (TCS) and was featured in the recent special fall edition (December 5$^{th}$, 2019 edition) dedicated to leading Canadian Life Sciences companies.

*Grants*

CHRP

- BioMark secured a major CHRP grant with Dr. Miller and a high impact multi-disciplinary team to collaborate in developing potentially disruptive diagnostic test for glioblastoma. (Gliobalstoma – GBM is a very aggressive form of brain cancer). The grant was for $750,000 and will be used to assess different agents as potential biomarker for glioblastoma. A panel of new markers will be tested to determine the clinical viability of utilizing a vibrant set of metabolites that can improve identification and care for patients with glioblastoma. Collaborative Health Research Projects (CHRP) is a joint initiative between the Canadian Institutes of Health Research (CIHR), the Natural

Sciences and Engineering Research Council of Canada (NSERC) and the Social Sciences and Humanities Research Council of Canada (SSHRC). CHRP grants support focused, interdisciplinary, collaborative research projects involving any field of the natural sciences or engineering and any field of the health sciences. Good progress is being made on this project.

*Medteq Impact Program- non-dilutive funding*

- BioMark is applying for $650,000 to support a Pan Canadian application for the development of lung screening assay in Quebec with Dr. Joubert from IUCPQ as a principal investigator. This study is expected to be instrumental since it involves a group of clinicians, assay kit developers, biostatisticians, health technology evaluators, a certified lab for validation and optimization of the kit. BioMark will only need to cover 20% of the cost.

*Capital Raise*

BioMark was able to raise capital successfully in 2019 despite a challenging CSE market. Numerous outstanding warrants were exercised into common shares (at 15 cents) as a result of the share price increase over the course of the year. BioMark also completed a year-end equity closing that was oversubscribed and offering priced over the market price. We had a group of US and Chinese investors in the last round that was closed on December 13th.

*US Penetration*

Company was registered in the US.

Planned Studies

- Glioblastoma Multiforme (GBM) -The initial primary area of focus will be to confirm through a proof of concept study the clinical utility of using tumour biomarker(s) developed by BioMark initially in accelerating assessment following glioblastoma multiforme (GBM) resection and correlating it to existing anatomical imaging tests for confirmation. Drs. Graeme Woodworth (Professor, Department of Neurosurgery, Director, Brain Tumor Treatment and Research Center Greenebaum Comprehensive Cancer Center, University of Maryland School of Medicine) and Chetan Bettegowda – (Associate Professor of Neurosurgery and Oncology and Director of Meningioma Centre Department of Neurosurgery Johns Hopkins) will be principal investigators (PIs) on this study. The study is expected to commence after ethics approval is granted estimated by Q2 of 2020.
- Lung Cancer - A second area of focus will be an assay validation of BioMark's lung cancer liquid biopsy for utilization in early lung cancer screening initiatives and measuring response to treatment. Dr. Christian Rolfo (Professor at the Department of Medicine at the University of Maryland School of Medicine, Director, Thoracic Medical Oncology, and Director, Early Phase Clinical Trials at University of Maryland Marlene and Stewart Greenebaum Comprehensive Cancer Center) will be the PI leading most of the studies

(prospective, retrospective and longitudinal) related to lung cancer. In addition, Dr. Rolfo and his team along with his network at Mount Sinai in New York have been working with BioMark in applying for major grants in the US for early lung cancer screening research program.

## 2020 – Outlook

**Expected Objectives: Revenue Generation, Licensing, Commercialization, Focussed Clinical Application and develop deeper Industry Collaboration**

- Health Canada Submission – Anticipate decision from Health Canada for the SSAT1 amantadine assay by Q2/Q3 of 2020.
- Apply for non-dilutive funding from Medteq and Canadian Research Society. Collectively the funding would be for around $1 million, although there are no assurances the funding will be received
- Commence and complete the 300-lung patient trial with our Chinese partners at 2 recognized tumour hospitals using credible CRO. All the protocols and standards will be designed on Canadian Health standards. Analyze the results and submit to CFDA for a larger scale trial. BioMark will be compensated a milestone payment after the successful submission to Chinese regulators. BioMark and both its partners (Chinese and Canadian) intend to publish papers and present key findings from the trials if the results are successful.
- Publications – Target to publish 3 - 4 peer reviewed manuscripts especially following results of the larger trial in Quebec. It is important to keep our science and discovery relevant to the scientific and the biopharma communities.
- Build stronger base and infrastructure in US – Expand presence, clinical partnerships and research support at existing partner sites. Seek two or more additional institutions to partner with BioMark. Apply for grants and foundation support. Increase market awareness programs to help corporate visibility and attract capital.
- Establish office and research support in Quebec to expedite the 1500 early cancer lung screening trial. Develop a Lab Developed test (LDT) test that will be optimized and tested at an accredited reference laboratory. Build appropriate standards and leverage lab infrastructure to beta test the assay. Refine the algorithms using AI. This initiative is expected to be completed within 24 months.
- Seek and continue to develop deeper partnership / relationships with large biopharma for early lung cancer screening program both in Canada and US
- Commence and complete a focussed glioblastoma (GBM) study in Maryland that can further generate additional revenues for the SSAT amantadine assay. Key indications for GBM would include ideas to optimize the system for gliomas; discriminate or correlate with specific mutations, grading of tumors, differentiate progression from pseudo progression and measuring disease burden /volume. Results from this study are expected to enable the principal researchers to obtain funding from important agencies such as National Institutes of Health (NIH). Furthermore, an orphan status can be granted by FDA should our test demonstrate efficacy over existing diagnostic measurement standards.

- Capital Raise – Build a better US story where valuations can be more in line with other companies in our space.
- Bench Strength – Hire staff to help in commercialization, acceleration of clinical trials and business development
- File patents to protect our major discoveries in key global markets.

Thank you all for your support in 2019. We wish you, your families and friends Happy Holidays.

Forward-Looking Information

This document contains forward-looking statements. These statements relate to future events or future performance and reflect management's current expectations and assumptions. The words "anticipate", "expect", "believe", "may", "should", "estimate", "project", "outlook", "forecast" or similar words are used to identify such forward-looking information. In particular, but without limitation, this document contains forward-looking statements relating to the potential future financial performance and proposed initiatives of BioMark Diagnostics Inc. (BUX). Such forward-looking statements reflect management's current beliefs and are based on information currently available to management of BUX. In particular, forward-looking statements relating to the potential future financial performance of BUX are based on: the financial and operating attributes of BUX as at the date hereof, the anticipated operating and financial results of BUX, the views of management and the board of directors of BUX regarding current and anticipated market conditions. Although we believe that the expectations represented in such forward-looking statements are reasonable, there is no assurance that such expectations will prove to be correct. By their very nature, forward-looking statements involve inherent risks and uncertainties (both general and specific) and the risk that the expectations represented in such forward-looking statements will not be achieved. Undue reliance should not be placed on forward-looking statements, as a number of important factors could cause the actual events, performance or results to differ materially from the events, performance and results discussed in the forward-looking statements. These factors include, among other things: changes in laws and regulations affecting BUX and its business operations, general business conditions and economic conditions in the markets in which BUX competes, the protection of its contractual, proprietary and intellectual property rights, actual future market conditions being different than anticipated by management and the board of directors of BUX, and actual future operating and financial results of BUX being different than anticipated by management and the board of directors of BUX. You are cautioned that the foregoing list is not exhaustive. You are further cautioned that the preparation of financial statements in accordance with IFRS requires management to make certain judgments and estimates that affect the reported amounts of assets, liabilities, revenues and expenses. These estimates may change, having either a negative or positive effect on net earnings as further information becomes available, and as the economic environment changes.

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**About BioMark Diagnostics Inc.**
BioMark is developing proprietary, non-invasive, and accurate cancer diagnostic solutions which can help detect, monitor and assess treatment for cancer early and cost effectively. The technology can also be used for measuring response to treatment and potentially for serial monitoring for cancer survivors.

Further information about BioMark is available under its profile on the SEDAR website www.sedar.com and on the CSE website https://thecse.com/.

Company website: www.biomarkdiagnostics.com

**For further information on BioMark, please Contact:**
Rashid Ahmed Bux
President & CEO
BioMark Diagnostics Inc.
Tel. 604-370-0779
Email: info@biomarkdiagnostics.com