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## **BioMark Diagnostics Announces Breakthrough Publication Reinforcing Leadership in AI-Powered Metabolomics for Oncology**

*Novel Graph Neural Network (N-GNN) Model Achieves Superior Accuracy in Early Lung Cancer Detection, Paving the Way for Enhanced Diagnostic Capabilities.*

**Vancouver, British Columbia – (May 20, 2025)** – BioMark Diagnostics Inc. ("BioMark") (CSE: BUX) (FSE: 20B) (OTCMKTS: BMKDF), a leader in developing liquid biopsy tests for early cancer detection, today announced the publication of a significant study exploring an artificial intelligence (AI) approach using novel graph neural networks (GNNs) that enhances the potential for early lung cancer diagnosis by modeling the complex web of metabolic pathways in cancer. The research paper, titled "M-GNN: A Graph Neural Network Framework for Lung Cancer Detection Using Metabolomics and Heterogeneous Graph Modeling," was accepted for publication in the Special Issue of *International Journal of Molecular Sciences* on Machine Learning in Bioinformatics and Biomedicine demonstrates how BioMark's investments in AI and machine learning are supporting current studies, boosting its cancer diagnostic platform and opening new frontiers in metabolomics.

The research, a collaboration between BioMark's scientific team, Harrisburg University of Science and Technology, and St. Boniface Hospital Research Centre & Asper Clinical Research Centre, introduces the M-GNN framework. This innovative model leverages graph neural networks to interpret complex biological interactions by analyzing metabolomics data alongside patient demographics and established metabolic pathway information.

"Recent advancements in GNNs have been proven effective in modeling relational data, making them ideal for capturing complex interactions within biological systems, such as those between patients' clinical data, blood metabolites, metabolic function, and disease pathways. GNNs have been applied to multi-omics data for cancer prognosis and subtype classification, including lung cancer. However, their application in metabolomics-driven early detection remains largely unexplored, even with the enriched relational context provided by databases like the Human Metabolome Database (HMDB)," says Jean-François Haince, PhD, BioMark's CSO.

This research signifies a pivotal advancement in the field of metabolomics and underscores BioMark's commitment to investing in AI-driven diagnostics. The M-GNN framework offers a scalable and interpretable tool for precision oncology, which can be used to further refine BioMark's existing assays for lung, breast, and neuroendocrine cancers and pave the way for new diagnostic and prognostic tools.

"Lung cancer remains a devastating disease where early detection is paramount for improving patient survival," said Rashid Bux, CEO of BioMark Diagnostics. "This publication showcases the power of integrating sophisticated AI, like graph neural networks, with our deep expertise in metabolomics. The M-GNN framework's ability to model intricate biological relationships represents a major step forward in our mission to deliver highly accurate and accessible early cancer detection solutions. We are immensely proud of our team of collaborators at Harrisburg University and St. Boniface Hospital Research Centre & Asper Clinical Research for this achievement."

While the M-GNN framework shows immense promise, further validation on larger, diverse real-world datasets will be important for clinical translation. The company is actively exploring pathways to integrate these advanced AI methodologies into its product development pipeline.

"By incorporating advanced AI like GNNs, BioMark is not just improving diagnostic accuracy; we are building a foundation for a new generation of precision oncology tools," added Mr. Bux. "This technology has the potential to expand beyond initial detection to areas like treatment response monitoring and the discovery of new therapeutic targets, solidifying our position at the forefront of AI-driven metabolomics."

The full publication can be accessed on the International Journal of Molecular Sciences website at: <https://www.mdpi.com/1422-0067/26/10/4655>

### **About BioMark Diagnostics Inc.**

BioMark Diagnostics Inc. is a leading developer of liquid biopsy tests for the early detection of cancer that leverages the power of metabolomics and machine learning algorithms. The company's proprietary technology utilizes a simple blood draw to detect the presence of cancer-associated biomarkers, enabling earlier diagnosis and improved patient outcomes. The technology can also be used for measuring response to treatment and potentially for serial monitoring of cancer survivors. BioMark Diagnostics Inc. is committed to developing innovative and accessible diagnostic solutions to address unmet medical needs in oncology

Further information about BioMark Diagnostic Inc. is available under its profile on the SEDAR+ website [www.sedarplus.ca](http://www.sedarplus.ca) and the CSE website <https://thecse.com/>.

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### **Forward-Looking Information:**

This press release may include forward-looking information within the meaning of Canadian securities legislation, concerning the business of BioMark Diagnostics Inc. Forward-Looking information is based on certain key expectations and assumptions made by the management of the company. Although it believes that the expectations and assumptions on which such forward-looking information is based are reasonable, undue reliance should not be placed on the forward-looking information because BioMark Diagnostics Inc. can give no assurance that they will prove to be correct. Forward-Looking statements contained in this press release are made as of the date of this press release. BioMark Diagnostics Inc. disclaims any intent or obligation to update publicly any forward-looking information, whether as a result of new information, future events, or results or otherwise, other than as required by applicable securities laws.

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