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Cannabix's MSBS Marijuana Breathalyzer Technology Advances Quantification of THC in Breath

Vancouver, British Columbia, October 3, 2023 -- Cannabix Technologies Inc. (CSE: BLO) (OTC PINK: BLOZF) (the "Company or Cannabix") developer of marijuana and alcohol breath testing devices is pleased to report that its Mass Spectrometer Breath Sampler ("MSBS") technology along with the Breath Collection Unit ("BCU") have been used to quantify delta-9 THC levels from smoking and edibles in humans. This emerging capability is a significant milestone and a major leap forward in the arena of drug testing. Virtually all levels of law enforcement, government, and industry have an interest in quantifying THC levels in breath in an efficient and reliable manner which will enable the ability to correlate breath concentrations with established blood levels.

Cannabix has been focused on developing the MSBS as a simple effective way to test for recent use of marijuana and to confirm presence of delta-9 THC in breath using gold-standard mass spectrometry (MS). Over recent months, the Company has developed the capability to quantify delta-9 THC in breath samples using Cannabix's proprietary technology.

Highlights and Updates

- The ability to efficiently and reliably quantify THC in breath has been a long-standing goal of researchers and industry and holds potentially wide ranging benefits to society.
- Cannabix scientists have quantified delta-9 THC in human breath samples using proprietary hardware and methods.
- Cannabix scientists are using deuterated delta-9 THC (THC-D₃) as an internal standard to generate a calibration curve for THC quantification in breath samples (ng/cartridge). Currently, a limit of detection and limit of quantification have been achieved with human subjects in the low picogram range. This allows detection of THC from smoking and edibles up to 4+ hours after consumption.
- Experiments at Cannabix's lab have been conducted using the BCU for sample collection and MSBS front-end hardware interfaced with a Thermo TSQ Quantum Ultra triple-quadrupole mass spectrometer for sample analysis.
- In late August, it was reported that the U.S. Department of Health and Human Services has recommended to the Drug Enforcement Administration that marijuana be reclassified as a lower-risk, Schedule III controlled substance, from its current Schedule I status. If the reclassification is accepted, it can be reasonably expected that even more cannabis-based pharmaceutical and recreational products will be available to the public which further increases the need for THC testing technology for public safety purposes. (1) (2)

Importance of Quantification – how much is too much?

Efficient and reliable quantifying of delta-9 THC levels in breath has been a long-standing goal of researchers and industry alike, to build consensus for standardization, public safety, and the legal system. This is particularly important in regions where cannabis is legalized for both medical and recreational use where clear guidelines are urgently needed. The quantification of delta-9 THC in breath presents an opportunity to help establish a legal limit for THC in breath, a limit which has not yet been achieved. Cannabix's hardware (MSBS & BCU) coupled to gold standard MS is now advancing this capability.

Quantification method using Cannabix Hardware

Over recent months, Cannabix scientists have been focussing on sample quantification results using THC-D₃ internal standard after subjects have smoked or consumed marijuana edibles.

Concentrations per sample cartridge are calculated using pre-determined calibration curve which are generated from cartridges with known amounts of THC-D₃ using the MS Breath Sampler front-end hardware. The curve was generated based on the ratio between the Area Under the Curve (AUC) of the main fragments (193m/z for THC and 196m/z for THC-D₃). The Level of Detection (LOD) and Quantification (LOQ) were calculated in accordance with the ICH guidelines (3).

MSBS Technology and BCU

The Company's handheld Breath Collection Unit ("BCU", Figure 1) and mass spectrometer coupled laboratory "MS Breath Sampler" (Figure 2) are being used together to provide a new method for drug detection that complements gold-standard mass spectrometry with measurements taking under 2 minutes to acquire. This equipment significantly simplifies laboratory analysis methods, reduces sample turnaround times (thus minimizing operating costs), while maintaining sensitive, precise results.

MSBS compared to legacy LCMS methods

The MSBS is a novel method for efficient collection of analytes of low volatility from human breath utilizing liquid secondary adsorption (LSA) technique. The novel LSA concept has successfully demonstrated efficient capturing and releasing of THC using the breath aerosol as a carrier of solid and viscous liquid particle analytes as well as a secondary adsorbent to prevent sample loss from surface contact deposition.

Legacy conventional quantifying methods rely on the use of complex time consuming liquid chromatography mass spectrometry (LCMS) research based methods which require multiple time consuming preparation steps (e.g., solvent extraction and preconcentration) that are plagued with sample loss. This type of analysis is complex and can take hours to perform. Using the Cannabix equipment the results of a breath sample can be processed within 2 minutes without any sample preparation, preconcentration, or derivatisation steps resulting in an efficient and simple workflow.



Fig. 1 Cannabix updated Breath Collection Unit (BCU)



Fig. 2 Cannabix “MS Breath Sampler” technology coupled with Thermo TSQ Ultra

The Company also reports that BCU hardware pilot in Warren County, PA has now been re-directed to another unrelated pilot site. The Company was informed that due to the small size of the county, and limited number of testing opportunities at roadside, the hardware would be of better use at a different site.

Stock Option Grant

The Company is granting a total of 2,675,000 incentive stock options to directors and consultants of the Company. 2,100,000 options will be exercisable at \$0.35 per share for five years. 575,000 stock options will be exercisable at \$0.45 per share for 2 years, and subject to vesting provisions.

Readers should note, although the Company has achieved proof of concept prototype for its BCU and MS Breath Sampler (“technology”), the testing method and technology are still in the preapproval stage and accordingly the Company is not currently making any express or implied claims that the technology will proceed to commercial use. Furthermore, the method and technology used to quantify delta-9 THC in breath samples are in the preliminary testing phase and will require additional validation.

- (1) <https://www.dentons.com/en/insights/alerts/2023/august/30/hhs-recommends-reclassifying-cannabis-to-a-schedule-iii-drug>
- (2) <https://www.washingtonpost.com/health/2023/08/30/hhs-recommends-marijuana-reclassified/>
- (3) International Conference on Harmonisation. Q2 (R1): Validation of analytical procedures: text and methodology. International Conference on Harmonization, Geneva, 2005, p. 1–13.

About Cannabix Technologies Inc.

Cannabix Technologies Inc. is a developer of marijuana and alcohol breathalyzer technologies for law enforcement, workplaces and laboratories. Cannabix is working to develop delta-9 THC and alcohol screening devices. Delta-9 THC is the psychoactive component of marijuana that causes impairment. Breath testing for delta-9 THC would allow employers and law enforcement to identify recent marijuana use. Cannabix is the developer of *contactless breath alcohol detection devices* for employers and a host of other settings.

We seek Safe Harbor.

On behalf of the Board of Directors

“Rav Mlait”

CEO
Cannabix Technologies Inc.

For further information, contact the Company at info@cannabixtechnologies.com

The CSE has not reviewed and does not accept responsibility for the adequacy or accuracy of this release.

Cautionary Statement Regarding Forward-Looking Statements

This press release contains forward-looking information that involves various risks and uncertainties regarding future events. Such forward-looking information can include without limitation statements based on current expectations involving a number of risks and uncertainties and are not guarantees of future performance of the Company, such as final development of a commercial or prototype product(s), successful trial or pilot of company technologies, no assurance that commercial sales of any kind actually materialize; no assurance the Company will have sufficient funds to complete product development. There are numerous risks and uncertainties that could cause actual results and the Company's plans and objectives to differ materially from those expressed in the forward-looking information, including: (i) adverse market conditions; (ii) risks regarding protection of proprietary technology; (iii) the ability of the Company to complete financings; (iv) the ability of the Company to develop and market its future product; and (v) risks regarding government regulation, managing and maintaining growth, the effect of adverse publicity, litigation, competition and other factors which may be identified from time to time in the Company's public announcements and filings. There is no assurance that its development of breathalyzer technologies will provide any benefit to the Company, and no assurance that any proposed new products will be built, will be successful in beta testing or clinical trials. There is no assurance that the Company will enter into any partnerships to advance any of its corporate initiatives or technologies. There is no assurance that any “patent pending” or “provisional patents” technologies licensed by the Company or owned by the Company will receive patent status by regulatory authorities. The Company is not currently selling commercial breathalyzers. Actual results and future events could differ materially from those anticipated in such information. These and all subsequent written and oral forward-looking information are based on estimates and opinions of management on the dates they are made and are expressly qualified in their entirety by this notice. Except as required by law, the Company does not intend to update these forward-looking statements.