

09/06/2024



Introduction to CannaMetrix Innovations for Determining Potency Using the Endocannabinoid System

CannaMetrix, LLC has its origins in drug discovery science. Our goal is to address an industry wide unmet need for more relevant potency testing methods. Potency of cannabis-containing products is a biological phenomenon that arises from the sum of cellular responses throughout the tissues in the human body known as the entourage effect. The large diversity of cannabinoids and terpenes that can evoke responses throughout the human body and make up the major and minor constituents in cannabis extracts can have additive, synergistic or inhibitory interactions, leading to entourage effects that determine the actual or perceived potency of products. This concept, which is the corner stone of the Company's patent, has not been fully appreciated by the industry and currently is not required as part of compliancy testing. Consequently, testing methods that determine potency using endocannabinoid biomarkers have not been prioritized during product development and sales. Instead, governments and the industry adopted chemical testing methods to determine percent cannabinoid composition that were historically in place for the purpose of regulating psychotropic substances such as Δ^9 THC, long before other cannabinoids became part of the public conversation.

CannaMetrix received a patent in October 2023 covering human cell-based potency testing as an industrial method for determining biological potency. Along with chemical composition analysis and toxic substance testing, human cell-based potency testing will lead the industry to better appreciate the contribution of major and minor cannabinoids to product potency and result in the commercialization of products that have greater market share through consumer confidence and product loyalty.

Our business plan is to transform the legal cannabis industry with a series of rapid, low cost, high throughput tests (the **EC₅₀ Assay** and **E₅₀ Tissue Array Assay**) as in line or post-production industrial methods that report on and quantify endocannabinoid responses to cannabinoids. The methods are anticipated to disrupt the industry's status quo by establishing scientific standards based on human biology that are superior in predicting product potency.

The **EC₅₀ Assay** will become an indispensable endpoint in the development of new cannabis plant strains. It will serve as a new standard for validating batch-to-batch consistency during the extraction process and enable the shelf life of product potency to be determined. The EC₅₀ Assay will become a calibration tool for validating the intended potency for synthetic cannabinoids and guide the composition of blended synthetic cannabinoid products.

The **E₅₀ Tissue Array Assay** measures the potency of cannabis products on the endocannabinoid system in cells derived from several tissues throughout the human body. As such, it can assess potency in tissues or groups of tissues known to coordinate metabolic pathways, immune modulation, tissue inflammation, neurological functions and disease states.

Biological potency testing has the potential for **personalized cannabis medicine** which will inform consumer choice of products that their bodies respond to best. In this third tier, CannaMetrix will measure the biological potency of multiple cannabis products using cells drawn from an individual to identify those that are most potent. DNA sequencing of the individual's genes that encode their endocannabinoid enzymes and receptors may be requested to provide a rationale for why certain products may be more potent and more effective.

Understanding the biological potency and the chemical composition of products is an enormous leap forward in bringing credibility and value to the cannabis industry. CannaMetrix testing will enable the industry to provide key value-driving, product information in the form of product branding, labeling and package inserts. As such, the industry demand for CannaMetrix testing will come from growers, extractors and product developers, testing labs, regulators, dispensaries, and leaders of clinical and basic research.

With its scheduled laboratory for testing and R&D, unique resources, trained staff, and patent, CannaMetrix predicts that it will be revenue positive within two years and has the potential to grow to a multimillion dollar company within five years through contract testing services with corporate, private and government developers, retail and whole sellers, licensing deals and royalties, and offering of personalized medicine testing services.

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