



CannaMetrix, LLC™

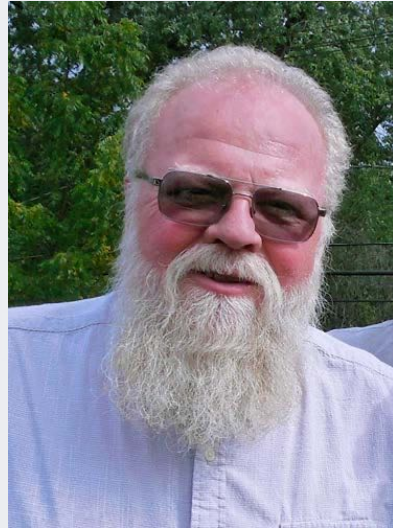
Ensuring Quality Control Through Cell-Based Testing

The Business Model

Establish a new potency standard in the Cannabis industry based on our proprietary testing in live human cells.

Differentiate products and enhance consumer choice through CannaMetrix labeling for batch-to-batch consistency, product shelf-life and predictable performance.

CannaMetric Team



Harold C. Smith, Ph.D.
Founder and CEO
University of Rochester Medical Center
Professor since 1986



C. Owen Wolffsmith, Ph.D.
CSO and Laboratory Director
Ph.D. (UR 2018)
Biochemistry

Support Staff

Ryan Bennett, Ph.D.
CSO, OyaGen, Inc
Cell assay Consultant

Pat Bulger
Substance/Laboratory
Scheduling Consultant

David Yule, Ph.D., URM
GPCR Science Consultant

Thomas Fitzgerald
Business Advisor

Carl Steinbrenner
Legal Attorney

Lisamarie Collins
Patent Attorney

Kim Staffieri
Accountant

Technical Scientists/Techs



The Urgency for CannaMetric Biological Potency Testing

**“Shortcomings Are Revealing Themselves in the
Legal Cannabis Business
Due to Widespread Misconceptions and Confusion”**



Shortcomings in Product Development, Dosing and Sales All Come Back to a Lack of Understanding of Cannabis Science and How Combinations of Cannabinoids Interact With the Body



~10-15% of the 110 cannabinoids are monitored by most analytical testing labs



<https://www.cdxfife.com/what-can-terpenes-do-for-you/>

~1/3 of the 80+ terpenes are monitored by most analytical testing labs

Current Practices that Only Measure the Major Cannabinoids in Products Are not Sufficient to Predict How the Human Body Will Respond



“I’m sorry sir, but our chef assures me this consists of the same major ingredients as the baklava you ordered.”

CannaMetrix Testing is Essential for the Growth of the Industry

Whether for inflammatory disease, pain relief, PTSD or recreational enjoyment, consumers want assurances of potency and product consistency.

Our patented, human cell-based potency testing and product labeling will assure consumers that they are purchasing a product that will deliver the results they expect.

This is why brand owners will want to have their products endorsed by CannaMetrix as having been laboratory tested in the human endocannabinoid system to have dose-dependent potency.

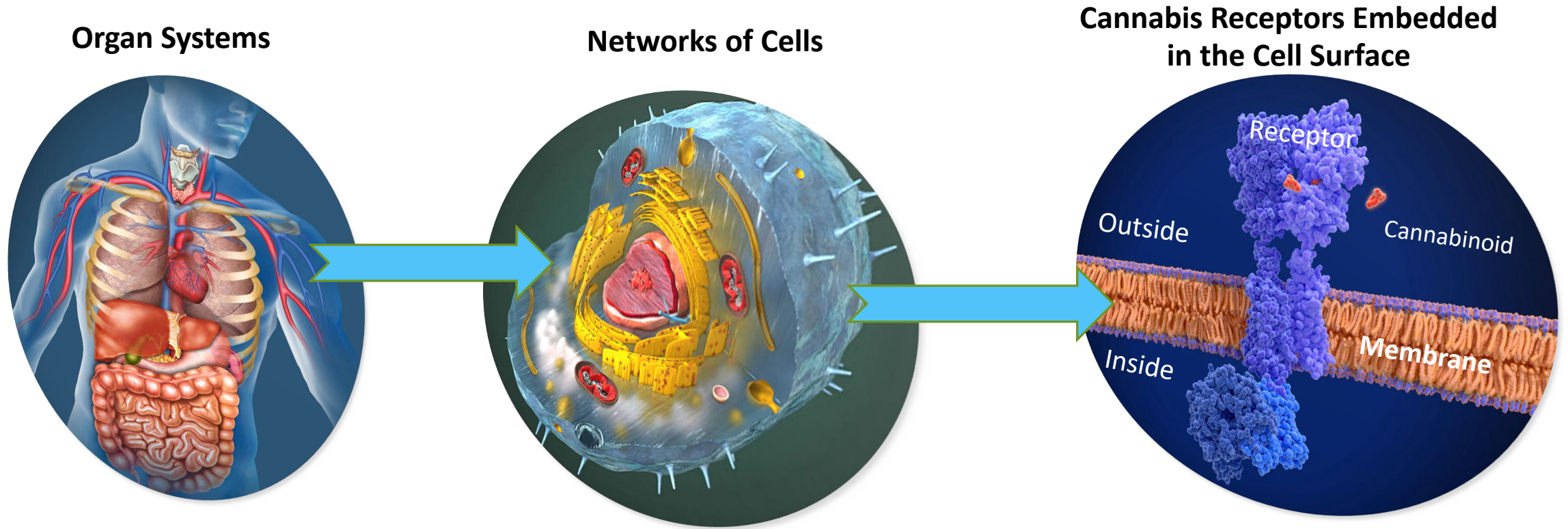
Satisfied customers will become loyal, life-long customers.

The CannaMetrix Proprietary Technology

CannaMetrix's flagship testing service the "EC50 Array" is a patented, beta tested, and peer-reviewed method of quantifying biologic potency that is ready for use today.

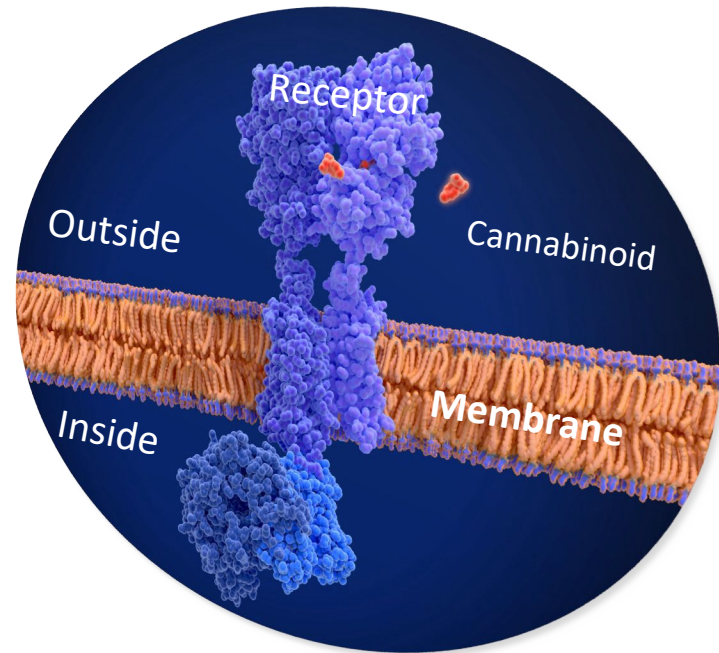
How Does Human Cell-Based Testing Measuring Cannabis Receptor Activity Validate Biologic Potency

Plant Cannabinoids Communicate with Human Cells to Alter Receptor Activity

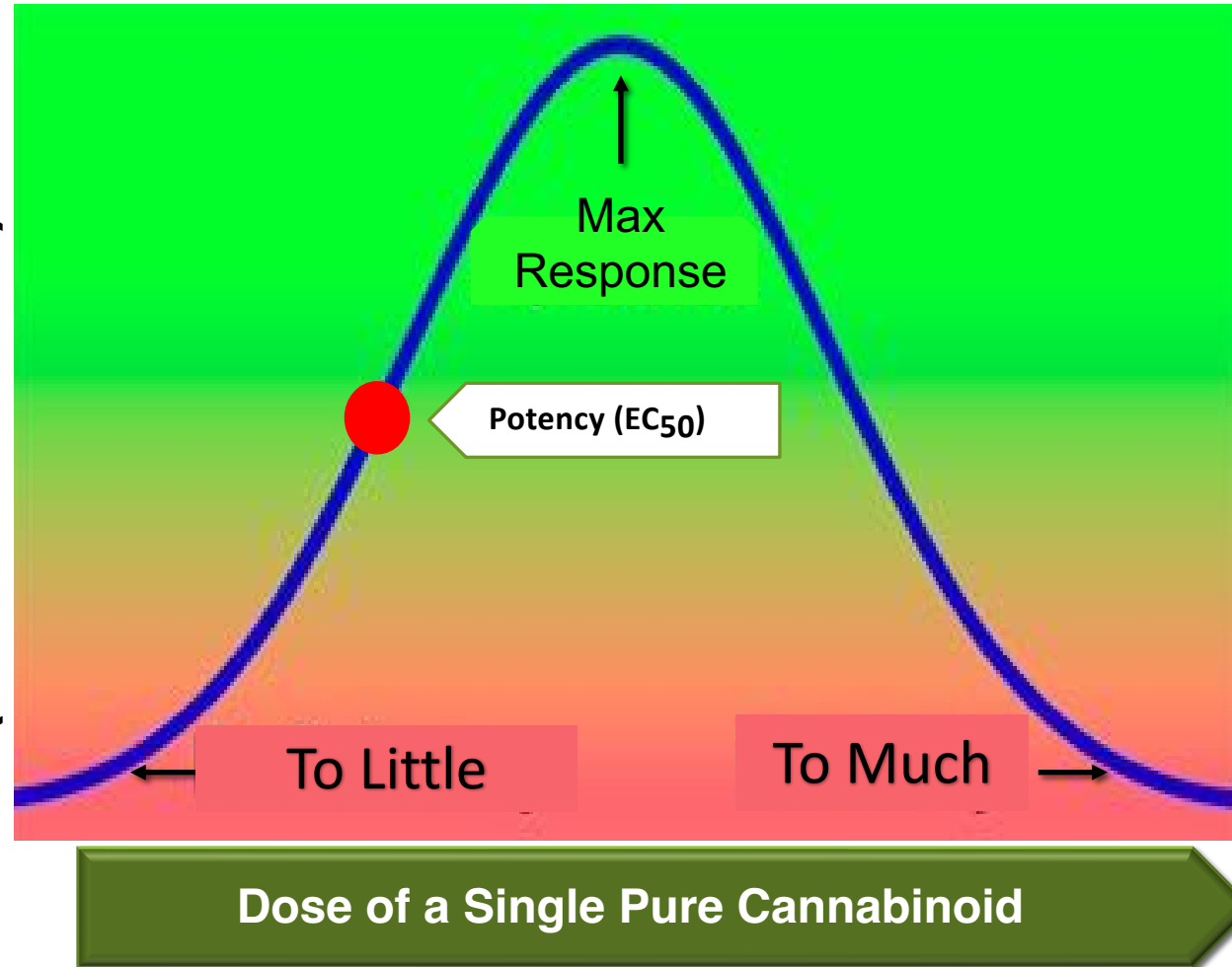


To understand the potency of cannabinoid products, it is essential to measure human cannabinoid receptor activity.

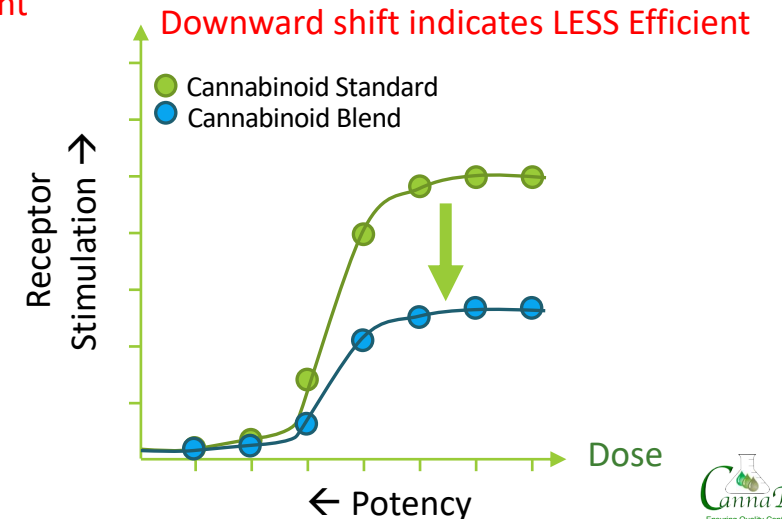
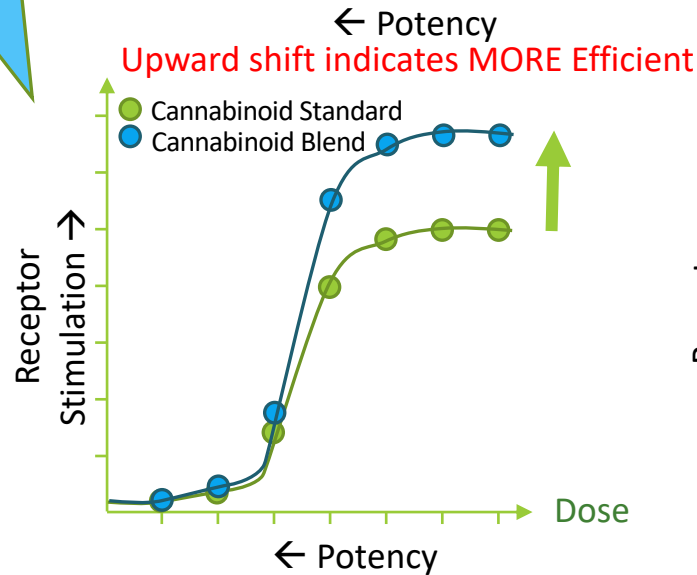
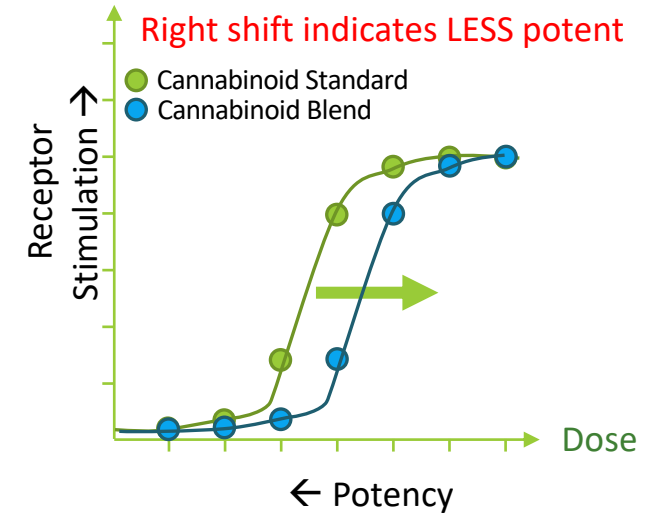
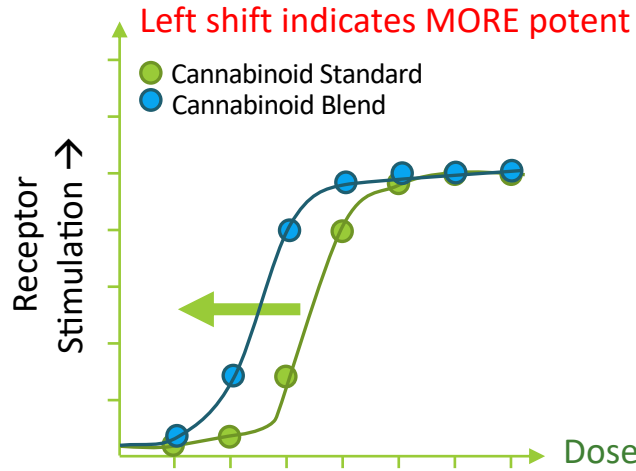
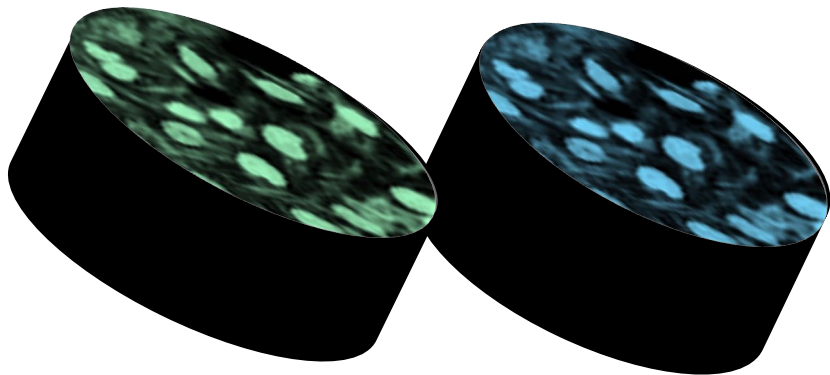
CannaMetrix Receptor Technology at a Glance



**Effect
(health benefit)**



CannaMetric Testing is Unique in the Business Because It Capitalizes on the Cannabis Science to Inform Product Development



CannaMetrix Proposed Product Labeling

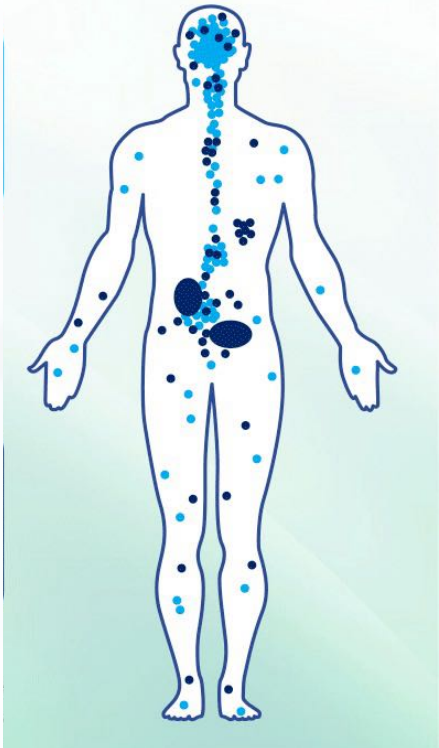


The potency of this product has been demonstrated through laboratory testing in human cells.

CannaMetrix EC50Array Formatted for Multiple Tissue Potency Testing



Cell and tissue responses to Cannabis modeled by cell-based potency testing

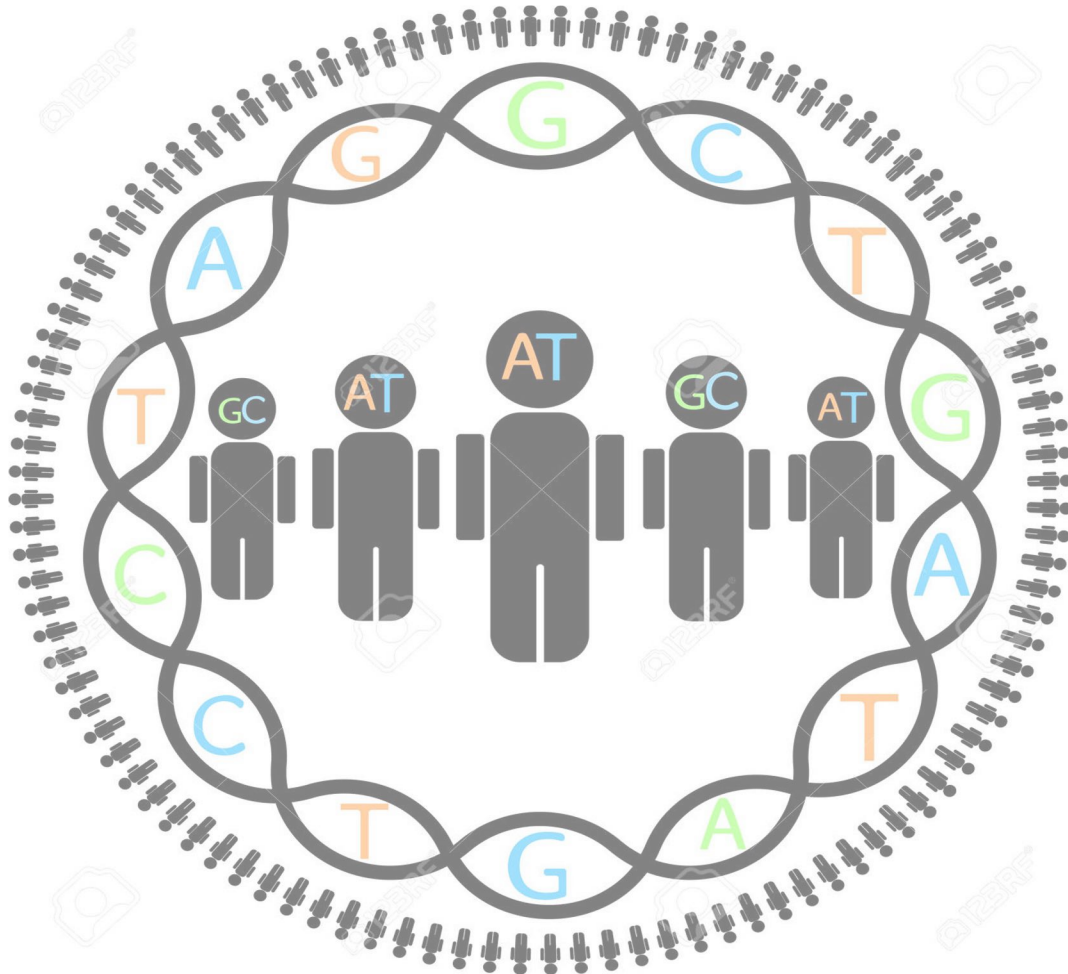


- skin
- gut
- immune system
- liver
- kidney
- neuronal
- bone



- skin
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Human Cell-based Testing Anticipates the Minimal Effective Dose Range For Cannabinoids in People



Different individuals may respond differently to the same cannabis product

This is because of naturally occurring genetic variation in the genes coding for the endocannabinoid system

CannaMetrix technology can be used to select the most potent cannabis product based on the patient's unique response



**BUSINESS
OPPORTUNITY**

Significant Growth Potential in the Cannabis Market

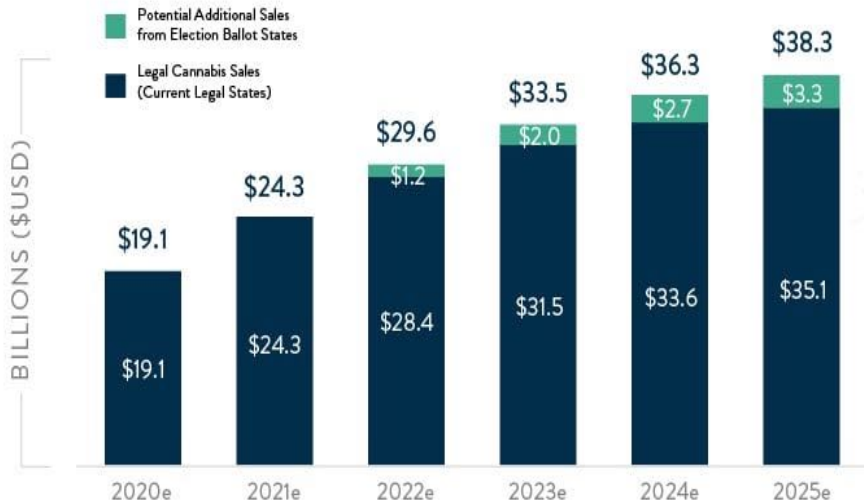
National

New York

CannaBit
- EST. 2014 -

U.S. LEGAL CANNABIS INDUSTRY GROWTH POTENTIAL

For More Insights Like This,
Visit: NewFrontierData.com



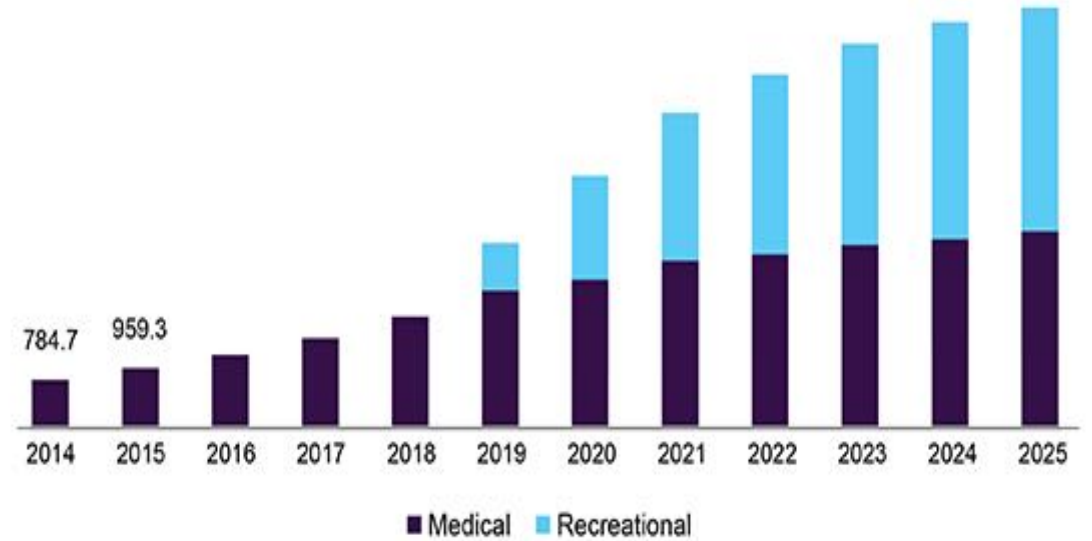
Legalization in five new state markets would mark the first time that more Americans would be living with legal adult-use access than living where cannabis remains completely illegal.

34% vs. 29%
WITH LEGAL ADULT-USE ACCESS
WHERE CANNABIS IS ILLEGAL

New Frontier
data

Note: Graph depicts total market sales projections assuming all five states pass their respective measures, and begin sales by Jan 2022.
© 2020 New Frontier Data | Source: New Frontier Data

New York cannabis market, by cannabis type, 2014 - 2025 (USD Million)



Source: www.grandviewresearch.com

We Have an Immediate Opportunity For Market Entry and Dominance

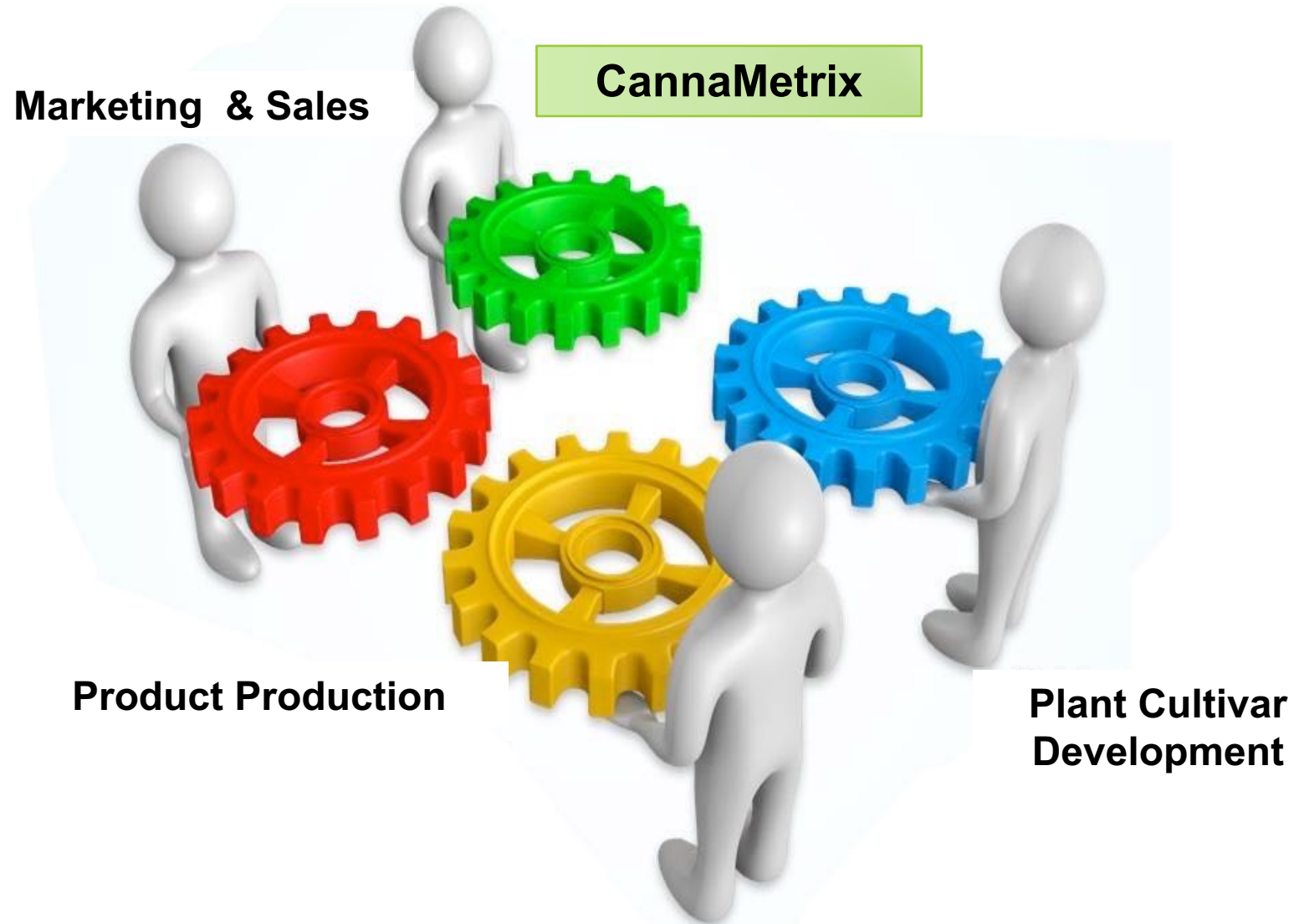
NY and many states in the USA and countries around the world are legalizing medicinal and adult use cannabis.

Numerous publications and reports express concerns that current cannabis testing is inadequate, lacks reproducibility and can be subject to fraud.

Our patented, biological potency testing assay, uses human cells and is based on responses specific to the human endocannabinoid system.

CannaMetrix is 'shovel-ready' and uniquely prepared to enhance product development and validate consistent product potency.

We Are Critical to the Success of a Cannabis Investment Portfolio



Anticipated Clients for CannaMetrix Validated Products



Summary of the CannaMetric Disruptive Opportunity

Strength

- Paradigm shifting cell-based testing
- Preemptive market entry
- Proprietary & non-proprietary products
- Expertise of founders & team
- International customers through EC_{50b} Reporter kit licensing
- High barrier to entry
- High tech portfolio company
- XXII Century Group has an option to license the technology

- Testing currently restricted to products produced in each state
- Early market entry
- Costs associated with laboratory, salaries and patenting
- Revenue and time required for EC_{50b} Reporter kit development
- Federal and State regulation

Weakness

Opportunity

- First to market, novel product
- Driving the conversation
- Limited testing facilities in NY
- Low bar for approval required for novel testing product
- Patient and physician demand for validation and credibility

SWOT

- A growing number of labs with standard testing services
- Uncertain timing for Federal and State regulation of the industry
- Testing labs that may initiate similar services
- Lack of appreciation of the need for science in the industry

Threat

Join the Remarkable Opportunity In CannaMetric

In the Next One to Three Years

- ❖ **Establish name recognition through B to B potency testing services using our shovel ready method with NY state and cannabis extraction facilities throughout the USA.**
- ❖ **Pair chemical composition with true biological potency, product labeling that is science based and emphasizing industry and consumer-focused education.**
- ❖ **Complete development of broad endocannabinoid biomarker potency tests focusing on human cell-based potency testing in disease models and personalized medicine.**
- ❖ **Expand the Company's functional testing lab space, instrumentation and staff for industrial level throughput.**
- ❖ **Enable cannabinoid combination product develop based on blends of cannabis plant varietal selection and specific blends of pure cannabinoid.**



Plan for Industry Leadership

- ❖ **Seek an equity investment of \$5 M to address the Company's immediate need for growth and development**
- ❖ **Partner with a strategic cannabis industry partner with access to agro engineering, cannabis grow/extraction and product preparation, labeling and marketing**
- ❖ **Near term merger or acquisition deal by an industry leader to accelerate the market penetration of biological potency validated, novel products and transform the industry**

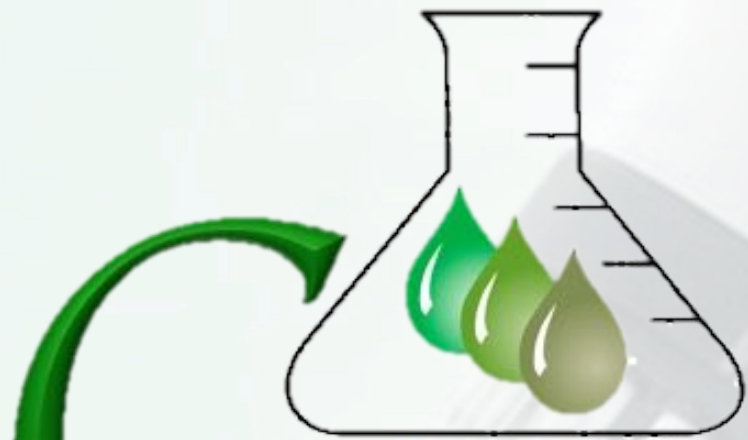
Milestones of Success

Grow the company through contract testing services, CannaMetrix labeling, licensing agreements, royalties and revenue from a percentage of products sold throughout the United States to become cash-flow positive within the next two years.

Establish a demand for CannaMetrix true potency validation through marketing outreach, scientific publication, and social media campaigns showing superior consumer satisfaction and market performance of endorsed products.

Build relationships with cannabinoid product developers to provide in-line testing services to better identify products during their development that will have superior performance.

Expand testing services to include human-in-a-dish and personalized cannabinoid screening platforms



CannaMetrix, LLCTM

Ensuring Quality Control Through Cell-Based Testing

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