



CANNABIS REPORT



Sample Report

A NOTE FROM OUR FOUNDER

The last 10 years have ushered in some big changes for cannabis use in America. As more states legalize cannabis for medical and recreational use, public opinion of the plant has undergone a radical reversal. As of 2019, over 67% of Americans were in favor of legalizing cannabis, compared to only 12% in 1969. As cannabis increasingly becomes part of everyday life, more people are likely to use cannabis for both recreational purposes and its broad range of health benefits.

As public opinion increases, the amount of scientific research on cannabis use has also been steadily increasing in recent years. This report is a product of that research, as it has become clear that cannabis can have profoundly different physiological and psychological impacts between users. This difference is largely a result of genetic factors that regulate how fast your body metabolizes the active ingredients in marijuana. However, your reaction to cannabis can also be influenced by environmental, psychological, and lifestyle factors.

The findings presented in this document are designed to help you use cannabis in an effective and predictable manner while minimizing potential side-effects. This report is based off of research for someone who has never used cannabis or uses it very infrequently. If you are an experienced or habitual cannabis user you may find that the doses recommended in this report are less than you typically consume.

If after reviewing this report you have any questions, please feel free to contact us regarding any aspect of this document. Also, please remember that cannabis is still illegal in most of the United States, including at the federal level. Please use the contents of this report in concordance with your local and state regulations.

Thank you for giving us the opportunity to contribute to your experience with cannabis.

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| | | |
|----------------|----|-----------------------|
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| Insomnia | 13 | Slightly Decreased |

Side Effects

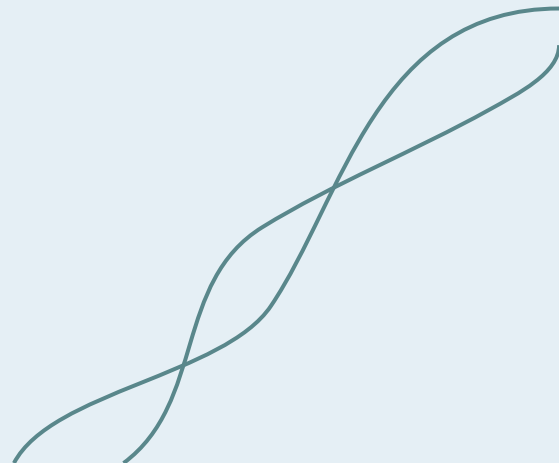
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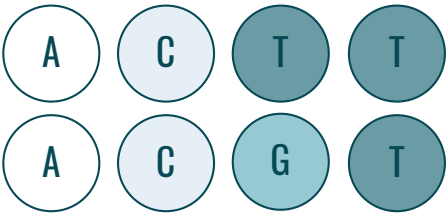
BASICS OF BIOLOGY

To get the most of of this report it will be helpful to understand some commonly used terms in biology. Please take a minute to read this section before moving on to the rest of your report!

There are four letters to your genetic code: A, T, C, and G. These letters are often called alleles.



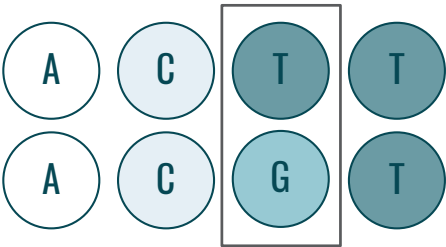
You have two copies of your genetic code, one from your mom and another from your dad.



Copy from Mom

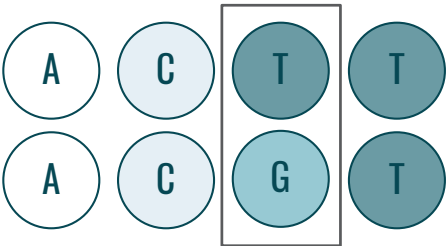
Copy from Dad

Changes in your genetic code are called “SNP.” The sequence of genetic code at a SNP is called a “genotype.”



C/T genotype

SNPs are always named with a number that begins with “rs.”



*C/T genotype at
SNP rs1234*

ABOUT CANNABIS

Effects of THC and CBD

The two predominant cannabinoids in the cannabis plant are tetrahydrocannabinol (THC) and cannabidiol (CBD). THC has traditionally been the better known compound as it is responsible for the psychoactive effects of cannabis. Simply put, THC gives you the *high* that is associated with marijuana. However, CBD has recently been gaining popularity due to its medical benefits, legality, and lack of psychoactive effects. This is not to say that THC does not have its own host of medical benefits, which are relatively similar to those of CBD as outlined in the following table:

| Characteristic | CBD | THC |
|---------------------------------------|--------|--------|
| Illegal | No | Yes |
| Psychoactive | No | Yes |
| Interacts with Endocannabinoid System | Yes | Yes |
| Side Effects | Rarely | Likely |
| Pain Reliever ⁷¹ | Yes | Yes |
| Reduces Nausea ⁷⁴ | Yes | Yes |
| Increases Appetite | No | Yes |
| Helps Insomnia ⁷² | Yes | Yes |
| Eases Depression | Yes | No |
| Anti-Inflammatory ⁷¹ | Yes | Yes |
| Decreases Seizures | Yes | No |
| Helps with Psychosis ⁷³ | Yes | No |



ABOUT CANNABIS

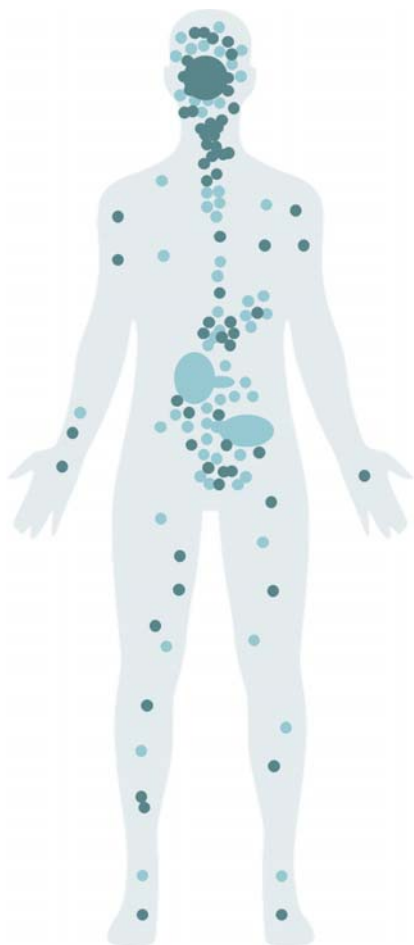
The Endocannabinoid System in Humans

Broadly speaking, **cannabinoids** are a diverse class of both synthetic and naturally-occurring chemical compounds. Most people are aware that the cannabis plant produces a wide variety of cannabinoids, but many people are surprised to learn that the human body actually produces its own cannabinoids and relies on them for a number of different cellular and neurological functions. Cannabinoids that are produced within the human body are referred to as **endocannabinoids** and the complex framework of receptors and neurotransmitters in the body is referred to as the **endocannabinoid system (ECS)**. Cannabinoids that are produced by plants are broadly referred to as **phytocannabinoids**.

The full role of the human ECS is still an area of active research. However, it is clear that the ECS is involved in a wide variety of physiological functions and cognitive processes, including:

- Memory
- Sleep
- Reproduction
- Mood
- Appetite

The diversity of functions is due to the fact that components of the ECS are found all throughout the body. The backbone of the human ECS are endocannabinoid receptors **CB1** and **CB2**. These two proteins may be thought of as a sort of gate for the effects of cannabinoids in the human body. When cannabinoids bind to these receptors, they trigger a complex cascade of cellular events that influence physiological and cognitive processes. Our endocannabinoid system largely acts to help our bodies maintain homeostasis, or a state of balance. Phytocannabinoids, such as those from marijuana, can interact with our body to influence a wide variety of cognitive and physiological processes. THC is known to interact predominantly with CB1 in the central nervous system, which likely explains the psychoactive effects associated with THC.



CB1

Cognitive Functions
Motor Skills
Appetite
Memory
Pain Perception

CB2















Digestive Organs
Skeletal System
Respiration
Skin
Cardiovascular System
Immune System

ABOUT CANNABIS

Types of Cannabis – *C. indica* vs. *C. sativa*

When it comes to selecting a strain of cannabis there are lots of options. The world of marijuana strains is a confusing one. Due to a lack of a standardized naming or classification system, the variance and nomenclature of cannabis strains is considerable. Even popular strains such as “Pineapple Express” and “White Widow” are known to be wildly different from dispensary to dispensary. Given this, the content of this report will focus on selecting cannabis strains based on more general characteristics.

The first major consideration when selecting a cannabis product is the species of the plant. There are two major species of the genus *Cannabis*: *Cannabis sativa* and *Cannabis indica*. Generally speaking, sativa species are known for having a higher THC content as compared to CBD, while indica species have a more balanced THC to CBD ratio. This difference in cannabinoid profile produces distinct effects outlined in the table below:

| SATIVA | INDICA |
|---|---|
|  <p>Plants are taller and slimmer Leaves are longer and thinner</p> |  <p>Plants are shorter and bushier Leaves are shorter and wider</p> |
|  Head High |  Body High |
|  Alertness |  Relaxation |
|  Uplifting + Euphoria |  Appetite Stimulator |
|  Creativity |  Sleep Aid |
|  Increased Energy |  Pain Relief |
|  Best for daytime use |  Best for nighttime use |

This being said, there is still considerable variance among Cannabis strains of the same species. We feel the best approach is to select a strain that has a known THC to CBD ratio, as the ratio of cannabinoids is ultimately what determines the effects. Reputable dispensaries will be able to provide this information for any cannabis product, whether it be dried flowers, edibles, oils, or tinctures.

ABOUT CANNABIS

Terpenes

Another consideration when selecting a cannabis strain is the terpene profile of the plant. Simply put, terpenes are aromatic oils that are secreted by a plant. Most plants produce a wide variety of terpenes for the dual purposes of attracting pollinators while deterring pests and herbivores. There are a tremendous variety of terpenes, with the cannabis plant capable of producing over 100 different varieties. Despite this complexity, there are major terpenes that are almost universally recognizable. The table below describes some of the most well-known terpenes:

| Calming | | | Energizing | |
|---|--|--|---|--|
| | | | | |
| | | | | |
| Myrcene (Herbal) | Pinene (Pine) | Caryophyllene (Peppery) | Limonene (Citrus) | Terpinolene (Fruity) |
| <i>Also found in:</i> | <i>Also found in:</i> | <i>Also found in:</i> | <i>Also found in:</i> | <i>Also found in:</i> |
| <ul style="list-style-type: none">• Hops• Mango• Lemongrass | <ul style="list-style-type: none">• Pine needles• Rosemary• Basil• Dill | <ul style="list-style-type: none">• Black pepper• Cloves• Cinnamon | <ul style="list-style-type: none">• Fruit rinds• Rosemary• Juniper• Peppermint | <ul style="list-style-type: none">• Nutmeg• Tea tree• Cumin• Lilacs |

There is a limited body of evidence suggesting that terpenes have their own therapeutic properties. Terpenes such as Myrcene are thought to promote relaxation and relieve stress while those found in citrus fruits are thought to be more energizing. Whether or not there is any therapeutic benefit to terpenes, they can significantly alter the taste and smell of cannabis products. If you are someone who enjoys the subtle differences in wine or the complexity of a well-seasoned dish, then you will likely appreciate the impact of terpenes on cannabis. This report will make general terpene recommendations, but these should always be factored into a decision only after the correct THC to CBD ratio is determined.

ABOUT CANNABIS

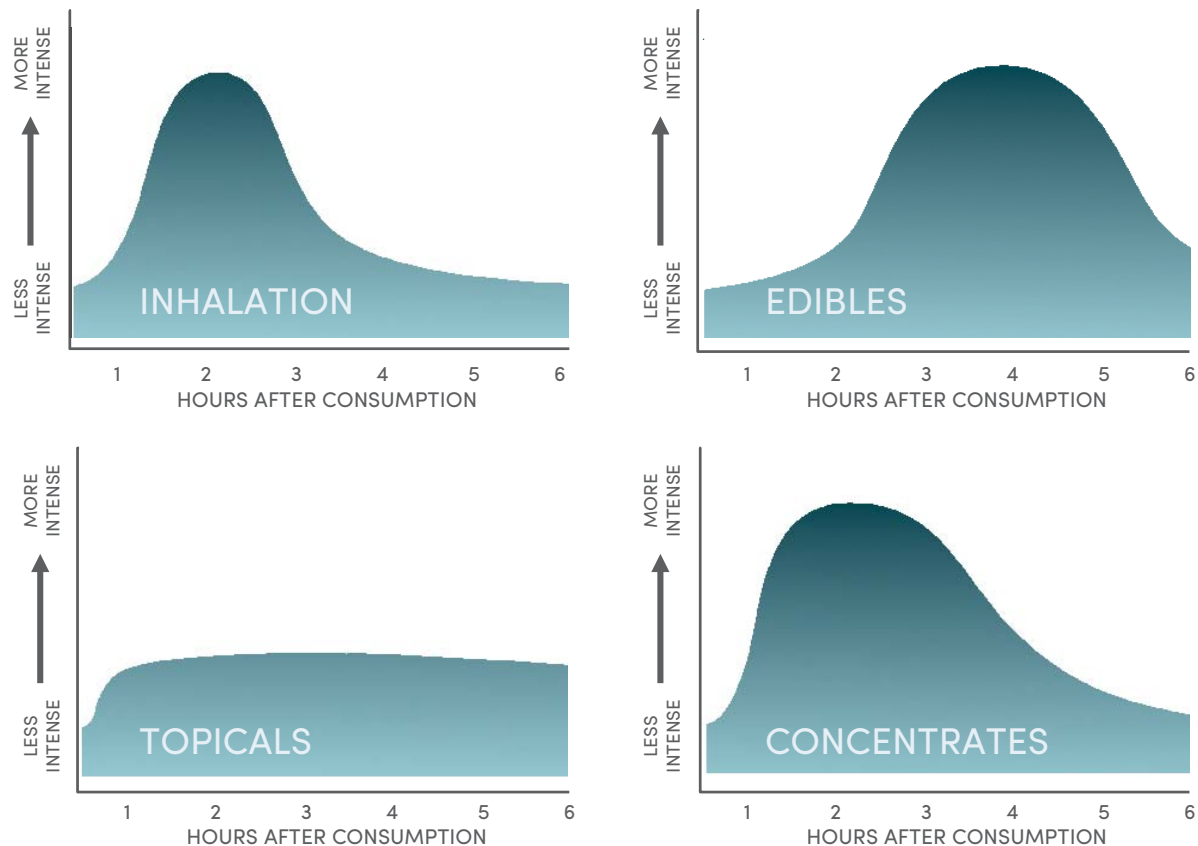
Dosing

The overall goal of this report is to provide the user with the information required to make the correct dosing decision. Selecting the correct dose of cannabis is one of the biggest challenges in using the product, especially for beginning users. This difficulty is due to a number of different factors, including variability between strains, various methods of consumption, level of desired effect, and large differences in CBD and THC metabolism. Your own genetics play a pivotal role in dosing, as many people metabolize CBD and THC much faster or much slower than average. Please see the CBD and THC metabolism traits for specific information regarding your genetic profile.

Genetics aside, there are some universal considerations that should be taken into account with any cannabis dose. The first of these is the manner in which you consume a cannabis product. There are now many different ways to consume cannabis, but they can all be grouped into the following categories:

- Inhalation (smoking dried marijuana flowers, vaporizers, oils)
- Edibles (gummies, baked goods, tablets)
- Topicals (lotions and lubricants)
- Concentrates (tinctures, resin, hash, wax)

As you can see in the graphs below, the intensity and duration of the effects from cannabis are highly dependent on the method of ingestion. Those who are trying to avoid acute psychoactive experiences should avoid inhalation-based methods and concentrates, while those who are looking for extended duration effects should consider an edible or topical form of cannabis.



Another important consideration is the degree of psychoactive effect that you wish and/or are comfortable experiencing. Those who are trying to avoid a significant psychoactive effect should consider a CBD-only preparation or a product with a very high CBD:THC ratio. Those who are comfortable with or are actively seeking the psychoactive effects of cannabis still have a wide dosing range to choose from. Dosing guidelines can be found at the end of this report.

ABOUT CANNABIS

Side Effects and Other Considerations

As with any medicine, there are potential side effects to using cannabis that should be understood prior to use. Generally speaking, cannabis is very well-tolerated by people, especially CBD. The majority of common side effects results from the use of high-THC strains. Cannabis products are generally seen as a relatively safe substance, but due to the drug's long history of illegality, limited long term studies have been conducted. We feel that the best approach, as with most things in life, is moderation.

Common Side Effects

- Paranoia and anxiety
- Dry mouth
- Red eyes
- Extreme hunger
- Lethargy
- Impaired memory
- Addiction and dependence
- Potential for lung damage
- Potential drug interactions

Combating a Cannabis High that is Too Intense

Despite the best laid plans, cannabis users sometimes find that they have ingested too much and have become uncomfortable with the psychoactive effects. While this can be very uncomfortable, it is important to remember a few key points that will calm your nerves.

Don't Panic

No one has ever died from consuming too much cannabis. Remember that these feelings will eventually pass. Consult your physician if you are having symptoms of a panic attack.

Distract Yourself

Watch a show, listen to some music, talk to a friend. Focus your mind on something else.

Try to Sleep

While often easier said than done, sleeping is often the best way to get through an uncomfortable high.

Get Some Exercise

While this may seem unappealing, some fresh air, a change of scenery, and a little exercise often goes a long way in improving an overly intense cannabis high.

Diet and Hydration

Be sure to stay hydrated and try some light snacks. Avoid caffeine, alcohol, and overly sugary foods. Some people swear by smelling and/or chewing on black peppercorns to help shift your attention from an intense high.

SIDE EFFECTS



YOUR RESULTS

Memory Impairment-
Less Likely

Cannabis Dependence -
Average Risk

Psychosis of Marijuana -
Average

There are a number of side effects that many people experience when using cannabis. These include relatively benign effects like dry mouth, red eyes, hunger, or lethargy. More severe side effects can include paranoia, addiction, the potential for lung damage if smoking, and the potential for interactions when taking other drugs or medication while using cannabis. Due to cannabis’s effects on the brain, especially on the developing brains of adolescents, cannabis use can have both short and long-term effects on mood, memory, attention, and learning.²³ However, much more research needs to be done to determine how this is happening.

Many factors influence the possible side effects a person can experience when using cannabis. The traits in this section look at how your genetics impact a few possible side effects.

MEMORY IMPAIRMENT

YOUR RESULT:

Less Likely

You are less likely to experience symptoms of working memory impairment, meaning that your short term memory and informational processing skills should not be degraded when using cannabis.

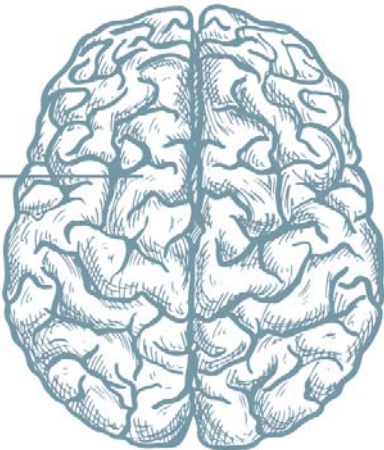
| GENE | SNP | YOUR GENOTYPE |
|------|--------|---------------|
| COMT | rs4680 | AG |

While our memories may seem to be an intangible part of our mind, they are actually wholly biological. When memories are formed, neurons initiate protein synthesis that creates a chain reaction of molecules that create, strengthen, or remodel neuronal networks within the hippocampus and between the hippocampus and the cortex.^{24,25} This process is called encoding. The patterns of connectivity within those neuronal networks are how memories are then retrieved by the cortex.

Based on this biological understanding of memory, it's no surprise that our genetics play a large role in how well we can remember things.^{26,27} But there are several steps we can take to improve our recall abilities. Like many cognitive functions, memory is greatly affected by both exercise and sleep. Mild cardiovascular exercise has been shown to improve study participants' performance on both short-term and long-term memory tasks.^{28,29} Sleep is believed to be necessary for a memory process called consolidation, which is when your short-term memories become long-term memories.³⁰ Numerous studies have confirmed that being well-rested improves recall ability.³¹⁻³⁴ Additionally, preliminary research suggests that regular yoga practice can improve memory.³⁵

Cannabis use is well-known to produce short-term memory impairments that resolve once cannabis use is stopped. However, more research is showing that chronic cannabis use, especially in strains high in THC, can result in these impairments becoming more long-lasting.³⁶

Hippocampus
A structure in your brain that has been associated with various memory functions.



CANNABIS DEPENDENCE

YOUR RESULT:

Average Risk

You have average chances of developing a dependence to cannabis. Take regular breaks between administrations to reduce the possibility of dependence.

Cannabis is the most commonly used illegal substance, both in the United States and globally.³⁷ A common misconception is that marijuana is not addictive, however chronic cannabis use can result in both tolerance (needing more of a substance to feel the same effects) and dependence (experiencing withdrawal symptoms when users don't use the substance), both classic signs of addiction.³⁸

| GENE | SNP | YOUR GENOTYPE |
|---------------|-------------|---------------|
| CNR1 | rs6454674 | TG |
| FAAH | rs324420 | CC |
| CNR1 | rs806368 | TT |
| CNR1 | rs2023239 | TC |
| DRD2 | rs1076560 | CC |
| Intergenic | rs10969106 | GG |
| RP11-206M11.7 | rs143244591 | GG |
| ABCB1 | rs1045642 | AG |

In fact, chronic marijuana use has been shown to downregulate cannabinoid receptors in the brain.³⁹ These receptors are what THC acts on to produce the high when using marijuana, but they're also part of the natural function of our brain by playing a role in regulating the release of neurotransmitters in response to endocannabinoids, naturally occurring molecules in our brain that trigger cannabinoid receptors.⁴⁰ Both endocannabinoids and THC trigger these receptors to elicit the release of neurotransmitters like dopamine, but overuse of marijuana results in these receptors being less effective, so not only does it take more marijuana for a user to feel high, the brain's normal level of endocannabinoids isn't resulting in the same level of dopamine release, leading to changes in mood and behavior.³⁸

While this is a relatively new area of research, several genes have been shown to be associated with cannabis dependence. The gene *CNR1* codes for one of the cannabinoid receptors, CB1, and has been linked with higher risk for cannabis dependence.⁴¹ Another gene, *ABCB1*, is involved in transporting molecules across the blood-brain barrier and has been implicated in drug resistance.⁴²

If you or a loved one is struggling with cannabis use, you should speak with your doctor because there are many available treatment options.

PSYCHOSIS FROM MARIJUANA

YOUR RESULT:

Average

You have average chances of developing a psychiatric disorder as a result of habitual cannabis use. Consider refraining from everyday use to further reduce this risk.

| GENE | SNP | YOUR GENOTYPE |
|------|------------|---------------|
| COMT | rs4680 | AG |
| AKT1 | rs2494732 | CC |
| DRD2 | rs1076560 | CC |
| CNR1 | rs12720071 | TT |

The vast majority of cannabis users do not experience psychosis as a side effect, but the fact remains that some do. While research is still being done trying to find the cause, an association has been found between cannabis use and the development of schizophrenia later in life in a small percentage of individuals.⁴³

A number of genes have been examined to determine if this link may be genetic, and evidence suggests that it might be. These genes include *COMT*,⁴⁴ which is related to other psychotic disorders; *AKT1*,^{45,46} which has been shown to be activated by THC; *DRD2*,⁴⁷ a gene that codes for a dopamine receptor and has been implicated in the development of schizophrenia; and *CNR1*,⁴⁸ one of the cannabinoid receptor genes.

It's important to note that this research has shown that these genetic mutations may increase the risk of developing psychosis after cannabis, but it is not a guarantee as there are many other factors that influence these disorders. Conversely, even if a person doesn't have these genetic mutations, it is still possible to be affected.



METABOLISM + DOSING



YOUR RESULTS

THC Metabolism -
Intermediate Metabolizer

CBD Metabolism -
Rapid Metabolizer

Most people think of “metabolism” in the context of losing weight, and they aren’t wrong, but there’s more to it than that. Essentially, metabolism is the process our body uses to break down the things we ingest in order to release energy and molecules that can then be used to create the things our body needs to make, like proteins, lipids, and so on. Drug metabolism operates in a similar way, by breaking the substances down into smaller molecules (called metabolites), but this process uses a different system of enzymes to do so, since these enzymes have to be ready to process a wide variety of chemicals that aren’t part of our normal biochemistry. (Note that in scientific terms, a “drug” is simply anything that is consumed for non-nutritional purposes that has the ability to alter our bodies or minds. This includes medication, illicit substances, and even things like coffee and alcohol.)

While the metabolic pathways (the series of chemical reactions that accomplish metabolism) that are used for nutrition are aimed at gaining energy, the main purpose of the metabolic pathways used in drug metabolism is detoxification: breaking down and excreting foreign substances to ensure they don’t build up in the body and become toxic.^{64,65}

The majority of drug metabolism occurs in the liver, where there are high concentrations of those enzymes. The largest family of these enzymes is called Cytochrome P450, and they are abbreviated as CYPs. There are at least 57 genes that code for these enzymes and individual genetic mutations within these genes can impact their efficiency.⁶⁶

This section of your report looks at a range of CYP genes that are related to metabolizing the two most important chemicals in cannabis: THC and CBD, followed by personalized dosing recommendations.

THC METABOLILSM

YOUR RESULT:

Intermediate Metabolizer

You metabolize THC slower than the average individual. This can result in excessively intense experiences at standard doses. Start with the low THC doses suggested for you at the end of this report.

Like most other drugs, tetrahydrocannabinol (THC) is metabolized in the liver by CYP enzymes. The initial chemical, Δ9-THC, is broken down into an active metabolite, 11-OH-THC, which has similar effects as Δ9-THC, and then is broken down further into an inactive metabolite, THC-COOH, which can then be excreted from the body.⁶⁷

Inhaling THC results in almost immediate effects, with Δ9-THC being absorbed by the lungs and moving directly into the blood stream. Bioavailability, meaning how much of the compound is actually able to be used by your body, varies depending on depth and duration of inhalation as well as how frequent a user you are, but tends to range between 10-30%. Oral ingestion of THC results in delayed effects, since it has to travel through the digestive system and be absorbed by the small intestine before it can move into the blood stream. While this process takes only minutes when THC is inhaled, it may take several hours before effects can be felt following oral ingestion.

When levels of THC in the blood are high, the body will begin storing it in fat cells, then release it back into the blood stream as levels drop. This means that Δ9-THC can be detected in the body long after the effects have worn off. The exact amount of time depends on many factors, but on average, the half-life for an infrequent user is a little over a day and for a frequent user can be up to 13 days. Metabolites may be detectable in chronic users for up to a month after last use.

| GENE | SNP | YOUR GENOTYPE |
|--------|------------|---------------|
| CYP2C9 | rs28371685 | CC |
| CYP2C9 | rs9332239 | CC |
| CYP2C9 | rs72558187 | TT |
| CYP2C9 | rs72558189 | GG |
| CYP2C9 | rs72558190 | CC |
| CYP2C9 | rs1799853 | CC |
| CYP2C9 | rs1057910 | AC |
| CYP2C9 | rs56165452 | TT |
| CYP2C9 | rs28371686 | CC |
| CYP2C9 | rs9332131 | II |
| CYP3A4 | rs12721629 | GG |
| CYP3A4 | rs12721627 | GG |
| CYP3A4 | rs28371759 | AA |
| CYP3A4 | rs2740574 | TT |
| CYP3A4 | rs55785340 | AA |
| CYP3A4 | rs67666821 | DD |
| CYP3A4 | rs35599367 | GG |
| CYP3A4 | rs4646438 | DD |

THC DOSING



THC DOSING FOR PSYCHOACTIVE EFFECT

| Intermediate Metabolizer | Desired Psychoactive Effect | | | |
|--------------------------|-----------------------------|------|----------|-------------|
| | Minimal | Mild | Moderate | Significant |
| Target mg of THC | 0-1 | 2-3 | 4-7 | >8 |



How Many mg of THC in Flowers?

| Consumption Method | %THC (Flower) | | | |
|---------------------|---------------|-----|------|-----|
| | 5% | 10% | 15% | 20% |
| Joint (0.32 g) | 16 | 32 | 48 | 64 |
| Bowl (0.25 g) | 12.5 | 25 | 37.5 | 50 |
| One-hitter (0.10 g) | 5 | 10 | 15 | 20 |



How Many mg of THC in Edibles?

| Split Doses | mg THC/Standard Dose | | | |
|-------------|----------------------|------|-----|-----|
| | 100 | 50 | 10 | 5 |
| 1/2 Dose | 50 | 25 | 5 | 2.5 |
| 1/3 Dose | 33 | 16 | 3 | 1.5 |
| 1/4 Dose | 25 | 12.5 | 2.5 | 1.3 |
| 1/6 Dose | 16 | 8 | 1.6 | <1 |

CBD METABOLISM

YOUR RESULT:

Rapid Metabolizer

You metabolize CBD much faster than the average individual. This will likely result in you needing a higher dose of CBD to control your symptoms. Follow the personalized CBD dosing information at the end of this report for the best effects.

Unlike THC, cannabidiol (CBD) is non-psychoactive and non-addictive. CBD is also metabolized by the liver’s CYP enzymes, but can also have an additional effect on them: it can function as a competitive inhibitor, meaning if a molecule of CBD is bound to the enzyme, it will be unable to bind other molecules, reducing that enzyme’s efficiency at metabolizing other drugs and medications.⁶⁸ That’s why it’s important to discuss your CBD use with your doctor, so they can evaluate any other medication you’re on and let you know if there might be an interaction.

Similar to THC, the bioavailability of CBD is much lower when ingested orally compared to inhalation. Oral bioavailability is only 6%, while inhaled bioavailability is around 30%.⁶⁹ Research has shown that plasma levels of CBD will be higher when CBD is administered with food or when a meal is consumed before or shortly after administration.⁷⁰

| GENE | SNP | YOUR GENOTYPE |
|---------|------------|---------------|
| CYP2C19 | rs6413438 | CC |
| CYP2C19 | rs12248560 | TC |
| CYP2C19 | rs4244285 | GG |
| CYP2C19 | rs4986893 | GG |
| CYP2C19 | rs28399504 | AA |
| CYP2C19 | rs56337013 | CC |
| CYP2C19 | rs72552267 | GG |
| CYP2C19 | rs72558186 | TT |
| CYP2C19 | rs41291556 | TT |
| CYP2C19 | rs17884712 | GG |
| CYP3A4 | rs12721629 | GG |
| CYP3A4 | rs12721627 | GG |
| CYP3A4 | rs28371759 | AA |
| CYP3A4 | rs2740574 | TT |
| CYP3A4 | rs55785340 | AA |
| CYP3A4 | rs67666821 | DD |
| CYP3A4 | rs35599367 | GG |
| CYP3A4 | rs4646438 | DD |

CBD DOSING



| Rapid Metabolizer | Severity of Symptoms (e.g. pain, anxiety, etc.) | | | |
|-------------------|---|------|----------|-------------|
| | Minimal | Mild | Moderate | Significant |
| Target mg of CBD | 29.25 | 58.5 | 87.75 | 117 |

Your Reported Weight: 130 lbs
Your weight is factored into your customized dosing.

Your Relative CBD to THC Metabolism

Slightly CBD Dominant

Your body will process CBD slightly more efficiently than THC. It is recommended that you start with a strain that has a CBD to THC ratio of 5:1 or greater.

Your relative CBD to THC metabolism is referring to how fast your body metabolizes CBD as compared to how fast you metabolize THC. For example, you may metabolize CBD and THC very slowly, but as compared to one another, you have a CBD to THC metabolism of 1:1. The goal of this element of the report is to bring balance to your cannabis experience, as CBD and THC are known to have synergistic effects when used together. It is still important to pay attention to the suggested dosage of THC described earlier in this report to avoid weak or overwhelming results.

DOSING CONSIDERATIONS

Choosing a Product

Slightly inefficient at processing THC

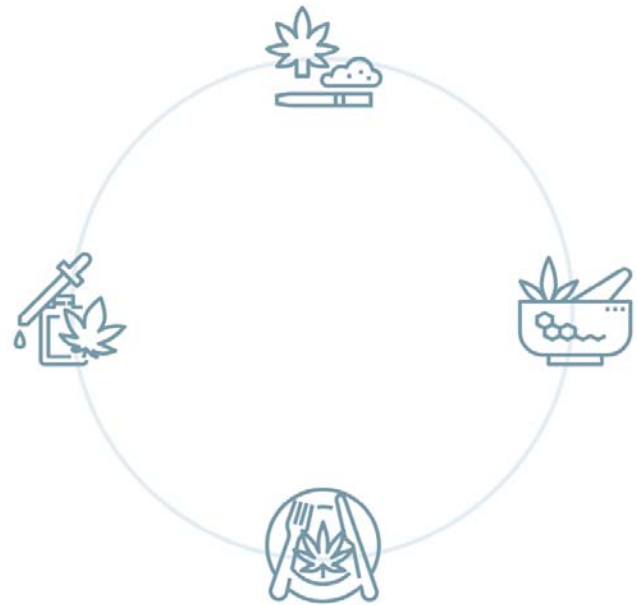
Slightly increased risk of anxiety and paranoia
Start with low doses of THC
Recommended CBD:THC ratio of 5:1 or greater.
Recommend starting with edibles to have more control over THC dosage.

Very efficient at processing CBD

Increased benefits from high-CBD products
Start with moderate to high doses of CBD
May require more frequent use of CBD products

Average tolerance to pain

Average genetic risk of addiction and dependence



Customized Dosing Guidelines

Begin with a product that has a CBD:THC ratio of 5:1 or greater

Edibles

• Decide what level of psychoactive effects you want to experience (see THC trait page) and adjust dosage accordingly.

Minimal: 0-1 mg

Mild: 2-3 mg

Moderate: mg

Significant: >8 mg

• Wait at least 1.5 hours after initial dose before consuming a second dose.

Inhalation (Smoking or Vaping)

• Decide what level of psychoactive effects you want to experience (see THC trait page) and adjust dosage accordingly.

• Select flowers or concentrates with a lower percentage of THC to have more control over your dose.

• Use a method of consumption that is conducive to your recommended amount of THC.

• Start with 1-2 quick puffs.

• Between self-administrations, wait 15-20 minutes between inhalations.

Cut out your DNA Dosing Card and fold in half to keep on hand for easy reference.

 **DYNAMIC DNA**
LABORATORIES
DNA DOSING CARD

Sample Report

Slightly inefficient at processing THC

Slightly increased risk of anxiety and paranoia
Start with low doses of THC
Recommended CBD:THC ratio of 5:1 or greater.

Very efficient at processing CBD

Increased benefits from high-CBD products
Start with moderate to high doses of CBD
May require more frequent use of CBD products

METHODOLOGY

Laboratory specimens associated with this report were analyzed using a DNA microarray. Genomic DNA was extracted from the submitted specimen and amplified using whole genome amplification techniques. The polymorphisms assayed in this report were targeted through the use of oligonucleotide primers. Single nucleotide polymorphisms were determined by fluorophore-based detection of a labeled probe hybridized to the complementary target sequence.

LIMITATIONS

This test detects polymorphisms other than those listed in this report. Polymorphisms not detected in this analysis include known mutations that result in an altered predisposition to the conditions discussed in this report. The absence of a detectable gene variant or polymorphism does not rule out the possibility that the test subject has an increased chance of developing any conditions discussed here. In very rare circumstances, polymorphisms in the primer or probe binding site may affect genotyping results. This test does not identify non-genetic factors that may contribute to an individual's predisposition to developing any of the conditions discussed in these findings. This test has not been approved by the United States Food and Drug Administration (FDA) and should not be used as the sole evidence of diagnosis. Genetic screening does not replace the need for regular clinical screenings for any of the conditions or analytes mentioned in this report.

DISCLAIMER

The information contained within this report is intended for informational purposes only. Do not alter any regularly scheduled health screenings due to the findings of this genetic analysis.