



THE ENDOCANNABINOID SYSTEM'S INTERACTIONS with THC, CBN, & CBD

The Budtender Fight Club

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You'll learn about

- The ECS & its role in maintaining/achieving health
- Cannabinoid receptors
- The types of major cannabinoids & how they interact with cannabis
- Using the ECS to treat health conditions

What is the Endocannabinoid System?

- Endocannabinoid System = ECS
- System of intercellular neurotransmitters- body's internal communication network
- Made up of: cannabinoid receptors, ENDOcannabinoid molecules, & the metabolic enzymes that both produce & destroy them

Cannabinoid Receptors

- Endocannabinoid molecules - "endo" means produced by the body ("phyto" means produced by plants)
- Ex: Anandamide (AEA) "bliss molecule", also causes apoptotic pathway in Chang liver cells (liver fibrosis)¹
- Metabolic enzymes
- Example: Fatty Acid Amide Hydrolase (FAAH) enzyme - destroys Anandamide

- Fig 1 Embedded in the cell membrane of **most cells** - some cells have both receptors!
CB1 activated by THC
CB2 activated by CBN

- Fig 2: "The cannabinoid receptor is a typical member of the largest known family of receptors: the G protein-coupled receptors with their distinctive pattern in which the receptor molecule spans the cell membrane seven times."²

The ECS's role in achieving/maintaining a healthy system

- The ECS is responsible for maintaining balance or "a state of homeostasis"
- Symptoms are not present when functioning normally

How do THC, CBN, & CBD interact with the ECS?

THC

- THC activates the CB1 receptor
- CB1 receptors are located throughout the central nervous system & concentrated in the brain
- Psychoactive
- STRONG driver for the rest of the medicine present

¹ <https://pdfs.semanticscholar.org/1b07/cda37cce6d71d9cf9679e56e84e0fbe3593c.pdf>

² <https://www.ncbi.nlm.nih.gov/books/NBK230721/>



CBN

CBN activates the CB2 receptor
CB2 receptors are located throughout the system peripherally & concentrated in the organs, particularly, the spleen
Non psychoactive
Driver for the rest of the medicine present
Sleep inducing

CBD

Does NOT bind to either receptor - more globs on
Inhibits the FAAH enzyme - increasing the production of anandamide
Non psychoactive
Gentle catalyst for the rest of the medicine present
DOES bind to the TRP variant 1
"Data show that a single dose of CBD reduces resting blood pressure and the blood pressure response to stress, particularly cold stress, and especially in the post-test periods. This may reflect the anxiolytic and analgesic effects of CBD, as well as any potential direct cardiovascular effects. Jun 15, 2017"³
CBD is more powerful than grapefruit - potential for overdose w/heart meds



Personal example:

I was on a high dose CBD regimen, almost ran out so I stopped taking it in the evening.
I woke up in an EXTREMELY depressed state the next morning.
Administered some of the high dose tincture, within minutes the extreme depression & anxiety was gone.

Why did this happen?

After experiencing "the great crash" I theorize that I have an overactive FAAH enzyme
By inhibiting the FAAH enzyme with the CBD tincture, my system flooded with anandamide, relieving the depression & anxiety

Transient Receptor Potential (TRP) Channel System

Where terpenes come to play...
Along with CB receptors, we have a specific TRP channel system in most cells.

What role do terpenes play?

Responsible for the individual effects of strains (including for CBD dominant strains...)
Cerebral versus body relaxing - look at the terpene profile
Keep in mind we do not test for anywhere near the # of terpenes that exist (200+)
Caryophyllene - only terpene that is in every strain of cannabis (α , β , & caryophyllene oxide)

Without major cannabinoids

Missing the drivers/catalyst for the medicine

Without terpenes

Responsible for the nuances amongst strains

Everything working synergistically together creates a masterpiece.



³<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5470879/>

Does it matter where the terpenes come from in regards to efficacy?

Whole Plant = Epoxy
Cannabis Derived = Superglue
Plant Derived = Glue
Synthetic = Double-sided tape

Targeting the ECS to treat conditions

Recognize which receptors are involved

LISTEN to the client and learn what condition(s) they are suffering from - everything plays a role in how their system responds
The more conditions, the more precise the cannabinoid profile needs to be to be effective (this may mean using a number of strains to treat their symptoms)

Fun Fact: the average human body contains over **37.2 trillion cells!** That's a lot of receptors...⁴

HIGH THC - Emergency Meds

conditions needing steroids, narcotics, etc

THC:CBD - More involved treatment

conditions involving the central nervous system

CBD:THC - Involved treatment

for conditions involving the nervous system

CBD WHOLE PLANT - Standard treatment

for conditions not involving the nervous system

CBD ISOLATE - Excellent starting point

for preventative measures
&/or avoiding a drug test

Listen to the client's needs

Listen to how the client WANTS to medicate, try to make it work for them
Terpenes matter significantly for individual systems, urge them to journal to keep track of effects from various strains/medicaments

⁴ <https://www.smithsonianmag.com/smart-news/there-are-372-trillion-cells-in-your-body-4941473/>

What did we learn?

The ECS is paramount to maintain/achieve a state of good health
CB1 receptor is activated by THC, concentrated in brain & central nervous system
CB2 receptor is activated by CBN
THC, CBN, & CBD...
Terpenes Matter!
How to treat general conditions targeting the ECS
LISTEN to the client, form their treatment regimen around their conditions, lifestyle, and specific needs &/or demands

It is extremely beneficial to learn about the endocannabinoid system helping people learn to heal themselves.

By taking advantage of a variety of applications, one is able to more comprehensively treat themselves. Finally, the more symptoms - the more specific the cannabinoid profile needs to be.

Thank you for attending:

THE ENDOCANNABINOID SYSTEM'S INTERACTIONS with THC, CBN, & CBD

A .pdf of the presentation & handout will be available after Monday, August 13, 2018 @ 10:00 AM - visit:
marymedibles.com/presentations

Questions?

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