

THE ENDOCANNABINOID SYSTEM (ECS)

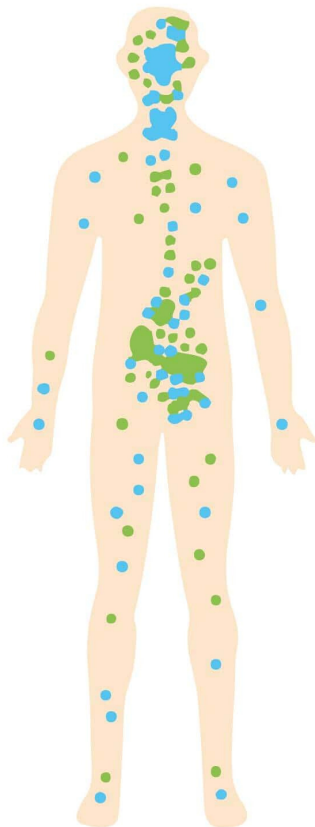
WHAT IS IT?

A biological and physiologic system composed of endocannabinoids receptors that are expressed in our brains, central nervous system and throughout the entire body to regulate homeostasis which establishes and maintains human health.

Homeostasis: maintaining physiological (the normal functions of living organisms and their parts) stable “baseline” equilibrium

The ECS affects brain functions, such as:

- Anxiety
- Blood-brain permeability
- Body temperature
- Cognition
- Decision making
- Emotions
- Fear
- Learning
- Memory
- Pain
- Regulation of bodily movements
- Sense of reinforcement or reward
- Stress



As a regulatory system it regulates the following:

- Appetite
- Blood pressure
- Bone remodeling and growth
- Cardiovascular system function
- Digestion
- Immune response and inflammation
- Liver function
- Memory
- Metabolism
- Mood
- Motor function
- Pain
- Protection of neural tissues
- Reproductive function
- Skin and nerve function
- Sleep
- Stress

THE ENDOCANNABINOID SYSTEM (ECS)

ECS HAS 3 PARTS:

1. *Endocannabinoids or endogenous cannabinoids*
 - *Naturally and internally produced molecules*
2. *Endocannabinoid Receptors*
 - *Receptors receives and transmits signals Found throughout the body. Endocannabinoids bind to them, receiving information to signal the ECS to either down-regulate or up-regulate a chemical signals to establish homeostasis*
 - *2 main endocannabinoid receptors:*
 - *CB1 receptors - are mainly expressed in the brain and central nervous system. The THC family of cannabinoids are the only compounds that can robustly active these receptors*
 - *CB2 receptors - are more widespread in tissues of the immune system, peripheral nervous system, digestive system, and have been identified in key regions of the brain*
3. *Enzymes that either synthesize or metabolize*
 - *Responsible for breaking down endocannabinoids once they have carried out their function*

Sources:

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- Furrer, N. (2018). *A woman's guide to cannabis: Using marijuana to feel better, look better, sleep better--and get high like a lady*. New York: Workman Publishing.

<https://www.healthline.com/health/endocannabinoid-system> <https://www.periodicedibles.com/blog/ecs> <https://www.uclahealth.org/cannabis/human-endocannabinoid-system>

ACTIVATE CANNABINOID RECEPTORS

The only way to activate the endocannabinoid receptors in your body is through 3 types of cannabinoids:

1. *Endocannabinoids or endogenous cannabinoids - internally and naturally cannabinoids produced in the body*
2. *Phytocannabinoids - cannabis plant produced cannabinoids*
3. *Synthetic cannabinoids - created in a laboratory*