# AN INTRODUCTION TO THE ENDOCANNABINOID SYSTEM (ECS)

**EDUCATIONAL SERIES:** MEDICAL MARIJUANA 101

Updated 2023

Your body naturally creates substances called endocannabinoids, and some of these are similar to the cannabinoids found in marijuana.

The body's ECS sends "signals" (endocannabinoids) to "receivers" (CB1 and CB2 receptors) to help balance your body's sleep cycle, appetite level, and more.

The cannabinoids in marijuana act in a similar way by connecting to the CB1 and CB2 "receivers" which can lead to different effects (e.g., increased appetite, changes in mood). But cannabinoids in marijuana are not identical to human cannabinoids and they are not the only component of marijuana.

It is not yet completely understood whether and how medical marijuana may help with a number of medical conditions.

CB2 receptors

CB1 receptors

#### **MUSCLES**

Helps control blood sugar. Creates a feeling similar to a "runner's high".

#### BONES

Supports bone mass and strength.

#### CENTRAL NERVOUS SYSTEM

Supports the brain and central nervous system including increasing memory.



Affects the immune system to reduce swelling.

# HORMONES

Balances hormones that support metabolism, reproduction, and stress levels.

**DIGESTING FOOD** 

Helps control irritation and swelling in your digestive system.

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Wilson RI, Nicoll RA. Endocannabinoid signaling in the brain. *Science*. 2002;296(5568):678-82.

Zlebnik NE, Cheer JF. Beyond the CB1 Receptor: Is Cannabidiol the Answer for Disorders of Motivation? *Annu Rev Neurosci*. 2016;39:1-17.



For more information, please visit the Consortium for Medical Marijuana Clinical Outcomes Research at mmjoutcomes.org.

Please note: this document is for informational purposes only, but is not medical or legal advice and should not be used to make healthcare decisions. Please consult your healthcare provider to find out what treatment options are available for you.

# **ABOUT THE CONSORTIUM**

Established in June 2019, the Consortium for Medical Marijuana Clinical Outcomes Research conducts, shares, and supports research on the effects of medical marijuana on health conditions and symptoms in Florida.

Composed of nine universities across the state and led by a leadership team at the University of Florida, the Consortium works to contribute to the understanding of medical marijuana use on health conditions and symptoms.



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