ThePortal.Life

ESSENTIAL IMMUNE FUNCTION SEMINAR

With Plant Medicine & the Endocannabinoid System

OVERVIEW

This document provides an overview of the talks presented at our Essential Immune Function Seminar on 29 May 2022.

We have also included a copy of ThePortal Life Integrity Agreement which outlines the framework of ThePortal Life System itself and a Recipe Book gifted for you to enjoy.

ENCLOSED DOCUMENTATION

1. ThePortal Life Integrity Agreement
2. Presentations:
   - The Endocannabinoid System; E. Cohen
   - Herbal medicine for Immunity; C. Baron
3. Recipe Book, Live Love Grow; K. McFarlane

Supported by:

Natural Lore Wellness

Mother's Medicine

Church of Ubuntu

INTEGRITY AGREEMENT

Communication in and around ThePortal.Life is a collaborative process where ideas, inspirations and knowledge may be adopted to adapted by mutually aligned individual and organisations for the benefit of the community as a whole system. This includes al applications and potential fields for a just and sustainable society with an initial focus on health and well-being. We are all learning together and your valuable skills and knowledge are appreciated and needed.

This is a living dynamic document and will evolve as we do with the below being a foundational platform that we can agree, align with and commit to.

It is our commitment to create an opportunity for all involved in this new framework, regardless of position or length of service, to participate in redefining the true meaning of care, support, sustainability and collaboration to the best of our individual collective abilities.

Together, we abide in:

- An innate calling to participate in a new paradigm aligned to preserving the natural world and all that it contains an represents.
- Ensuring those in our care feel safe, respected and assured that they are supported by a professional, ethical , integrated and compassionate team.
- Understanding that true sustainability is a collaboration, open to organic change as new information arises and old patterns, beliefs and ideas fall away. The flow of true sustainability can have no ownership, control, competition or judgement but rather grows an devolves from dynamic learning; fresh and new each day.
- Relating to eachother with respect and as equals and when any incidence of a difference of opinion or belief is evident to resolve with an open heart, open mind and rational approach founded in deeper learning and understanding of and for the whole.
- Respectfully acknowledging the rights, obligations and intentions of each individual or organization in relation to work agreements, organizational structures, financial arrangements and other practical considerations as this system evolves and grows.
- Assurance that all who contribute to this work are also supported and encouraged to utilize this opportunity to deepen individual practices and philosophies for greater conscious awareness, compassion and contribution to your own life and that of your family, community and the whole.

ThePortal.Life Foundation

PRESENTATON 1

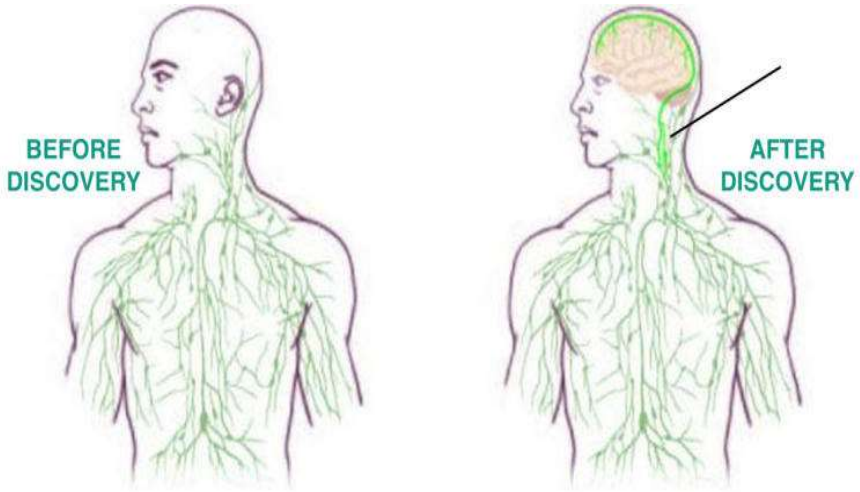
1 THE ENDOCANNABINOID SYSTEM (ECS)

"Understanding the basic functions of the endocannabinoid system allows clinicians to maximize benefit and minimize harm in Cannabinoid therapeutics" Dustin Sulak DO

By Emma Cohen

2 DISCOVERY OF THE ENDOCANNABINOID SYSTEM

- The ENDOCANNABINOID system has been discovered for over 20 yrs
- A huge body of evidence on the ECS exists with almost a new paper daily being added to peer reviewed publications.
- Yet this integral physiologic system that has so much to do with health, healing and homeostasis is almost never mentioned in any medical curriculum
- The ECS has evolved over the last 600 million years, with CB receptors discovered in mammals, birds and fish.
- The discovery of the Endocannabinoid receptor and Endocannabinoids caused an explosion of research by the scientific community. Scientists named the system of receptors and the endocannabinoid's that interact with them the ENDOCANNABINOID SYSTEM (ECS)

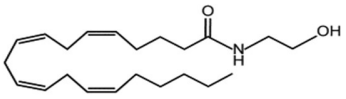


The lymphatic system map: old (left) and new.

- THE ECS is a major neurological system that regulates the flow of signals sent between cells with the goal of maintaining balance – This is called **HOMEOSTASIS**.
- Homeostasis is the way our internal environment responds to changes in the external environment.
- The ECS determines how your cells correct themselves when imbalance occurs.

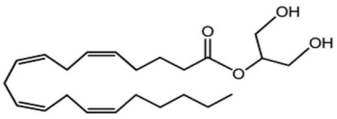
2.1 **Components of the ECS**

ENDOCANNABINOIDS (internal cannabinoids)



ANANDAMIDE
(N-arachidonoylethanolamine)

AEA (*Anandamide)*



2-AG
(2-Arachidonoylglycerol)

2-AG (2–arachidonoyl glycerol)

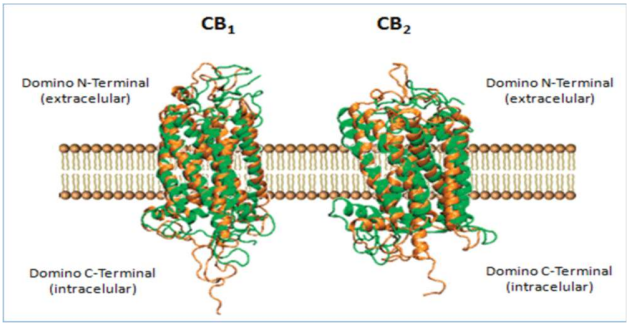
(There are at least 6 more that have yet to be studied)

CANNABINOID RECEPTORS

CB1

CB2

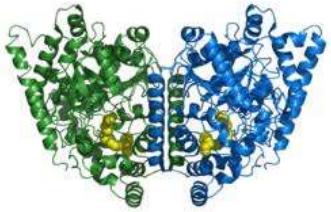
GPR 55, GPR 119, TRPV1



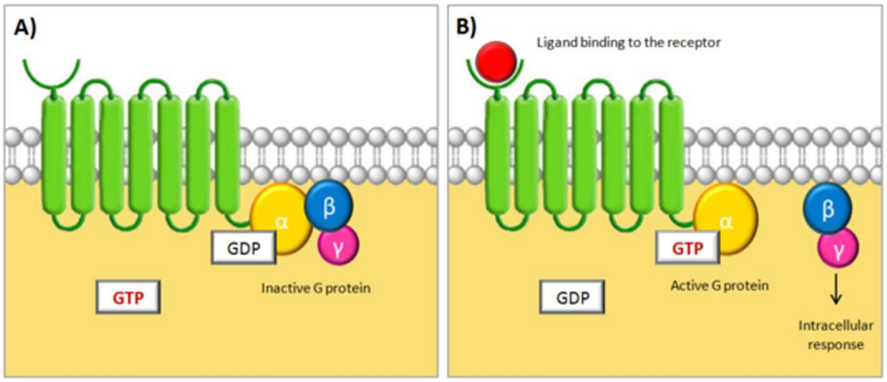
ENZYMES

Fatty ACID AMIDE HYDROLASE (FAAH)

MONOACYLGLYCEROL LIPASE (MAGL)



- The endocannabinoid system (ECS) consists of endocannabinoid receptors, cannabinoids (chemicals that act on these receptors – either endocannabinoids or exogenous cannabinoids) and enzymes that breakdown the cannabinoids
- Endocannabinoid receptors are detected as early as second day of gestation, with the CB1 receptor system forming alongside the spinal cord
- Endocannabinoids (internal neurotransmitters) are made and released by the cells on demand as a response to a trigger. Triggers include injury, illness, inflammation or other imbalances. These then activate the appropriate CB receptors.



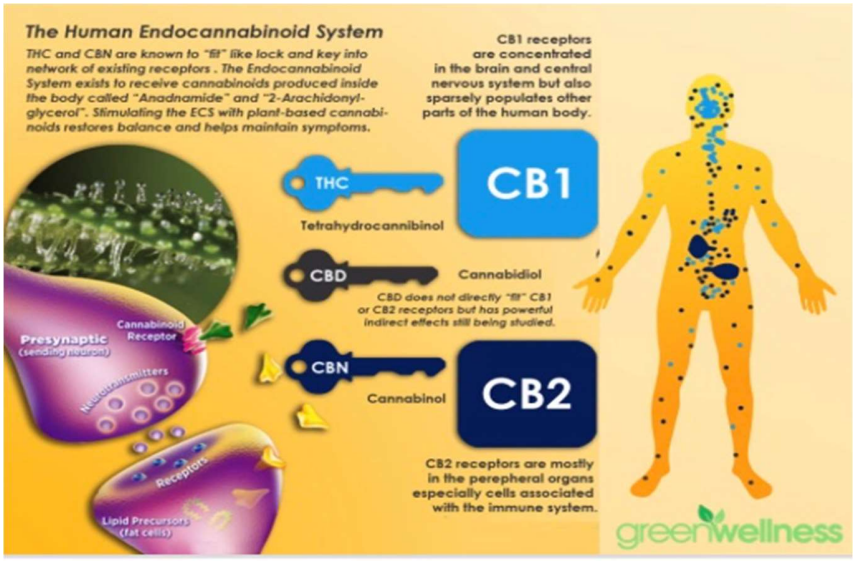
2.2 The Endocannabinoid Receptor System

- The ECS is the most widespread receptor system Within the Body, and in abundance in the CNS
- The main receptors of the ECS are the CB1 & CB2 receptors with minor receptors GPR 55 & GPR 119 & trpv1
- Endocannabinoids have been found to bind to non – cannabinoid receptors and can also activate certain proteins in addition to Endocannabinoid receptors.

- There is no risk of a fatal cannabinoid overdose due to their being no endocannabinoid receptors in the part of the brain that controls breathing and heart rate (Medulla)

2.3 Systems Regulated by the ECS

- Neuronal development, plasticity and protection
- Hormonal regulation
- Sensitivity of pain
- Cardiovascular SYSTEM
- Gastrointestinal SYSTEM
- Tone of Neurotransmission release
- Maintenance of bone mass
- Metabolism regulation
- Immune function
- Sleep / wake cycle regulation
- Inflammatory reactions
- Inhibition of tumour cells



2.4 CB1 RECEPTOR SYSTEM

- CB1 was the first receptor discovered
- It's the major CANNABINOID RECEPTOR in the CENTRAL NERVOUS SYSTEM AND BRAIN

2.4.1 CB1 Receptors in the Brain:

- Sensation of pain - (Amygdala, Thalamus, Periaqueductal, grey matter, and Spinal Cord)
- Memory and learning - (Caudate nucleus, Hippocampus, Putamen)
- Emotion/ anxiety/ depression/ fear - (Cerebral cortex, Limbic system)
- Motor control & coordination - (Cerebellum)

- Appetite - (Hypothalamus)
- Nausea / vomiting - (Dorsal Vagal complex)
- Pleasure and reward - (Nucleus Accumbens, Ventral Tegmental area, and the
    - Substantia nigra – this is the area that parkinson's disease effects)

2.4.2 CB1 Receptors in the Body:

- Testes
- Uterus
- Adipose tissue
- Connective tissue
- Endocrine glands & Exocrine glands

2.5 CB2 RECEPTOR SYSTEM

- Immune System – (monocytes, macrophages, B-cells, T- cells, spleen, and tonsils)
- Peripheral Nervous system
- Central nervous system
- Bones
- CB2 receptors are involved in the endogenous response to injury
- CB2 receptors are part of the biological protective system against non- protein (chemical, frequency) attacks to the body

2.6 AREAS THAT EXPRESS BOTH CB1 and CB2 RECEPTORS

- Heart
- Liver
- Gastro- intestinal System (Enteric nervous system)
- Reproductive System
- Skin (keratinocytes, hair follicles, sebocytes, sweat glands and nerve fibres of the skin)

3 THE ECS – BRAIN & CENTRAL NERVOUS SYSTEM

Nervous systems effected by cannabinoids:

- Central nervous system
- Spinal cord
- Peripheral nervous system
- Endocannabinoids - AEA and 2-AG are neuroprotective endocannabinoids that are produced by the nervous system upon both chemical and mechanical trauma.
- Cannabinoids reduce and prevent perinatal brain injury
- The ECS has been shown to be impaired in schizophrenia.
- AEA may play a protective role in psychosis homeostasis.
- CB1 receptor system activation in CNS

- Decreases pain sensation
- Provides the antiemetic effects (stops nausea) of cannabinoids
- Causes vasodilatation thus having antihypertensive effects
- Δ9-THC, CBD, AEA, 2-AG, all decrease glutamate excitotoxicity.
- Reduce seizure activity
- Reduce damage from stroke
- Abnormal physiology of the ECS has been linked with epliepsy
- Reduced AEA levels have been observed in patients with chronic migraines

4 THE ECS & OPIATE SYNERGY

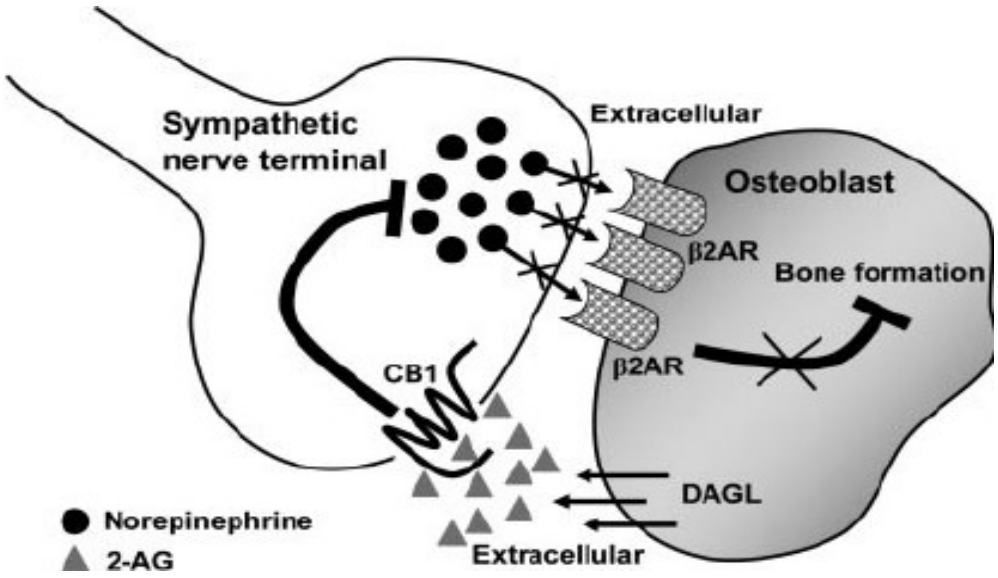
- CB1 receptor activation may play a significant role in reducing the tolerance of opioids.
- Combination increases therapeutic index of opiates. Showing promise for combination pain therapy
- Cannabinoid receptors have low density in brainstem cardio-respiratory centres, lowering the chance of a cardio-respiratory suppression and fatal overdose, the opposite with opioid receptors
- Low doses of THC and morphine in combination demonstrate avoidance of tolerance to the opioid with retention of the pain effect

5 THE ECS & PAIN

Areas of pain effected by cannabinoids:

- Acute pain
- Persistent inflammatory pain
- Neuropathic pain
- AEA blocks pain pathways in skin receptors (CB2)
- Cannabinoids suppress gaba interneurons inhibiting gaba uptake -this is clinically effective in treating pain symptoms
- Increased levels of CB2 receptors are found in human peripheral nerves after injury, particularly in painful neuromas.
- A fully functioning endocannabinoid system provides the "first line of defence against pain."
- By decreasing release of activators and sensitizers from neighbouring mast cells and macrophages. Reducing cytokine storm activity
- CB2 activation decreases inflammatory cell activation

6 ECS & BONE FORMATION



7 THE ESC & BONE & CONNECTIVE TISSUE

Connective tissue:

- Connective tissue express CB1 & CB2 receptors as well as endocannabinoid metabolizing enzymes
- CB1 receptors increase activity after exposure to inflammatory cytokines and stress
- CB1 and CB2 receptors are in fascial tissue and are concentrated into the fibroblasts.

Bone:

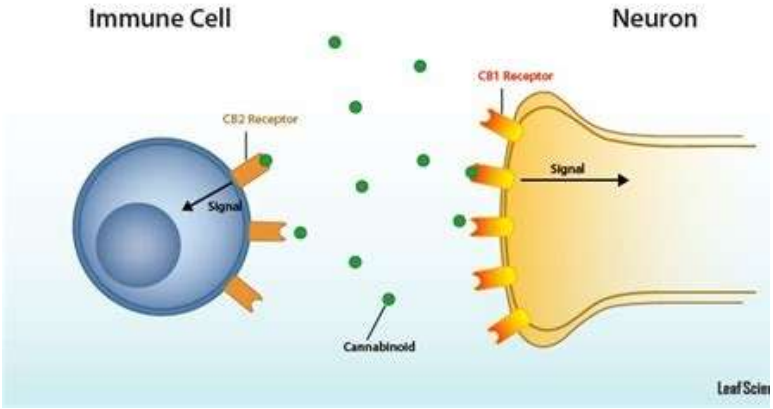
- CB2 receptors are located in bone and have been shown to increase osteoblast activity - (cells that build up bone) and decrease osteoclast activity (cells that break down bone)
- Osteoblasts and osteoclasts produce AEA and 2-AG endocannabinoids

8 THE ESC & GASTROINTESTINAL SYSTEM (GIT)

The ECS is involved in these git processes:

- Hunger
- Regulation of food intake and energy
- cell metabolism via ghrelin, leptin, orexin, and adiponectin signalling pathways.
- Gastric secretions and Gastric protection
- GI motility
- Visceral sensation and ion transport

- Intestinal inflammation and intestinal barrier protection
- Normal cellular proliferation in the GIT
- Human breast milk contains endocannabinoids
- There are both CB1 and CB2 receptors in the liver and are expressed during injury or inflammation
- Activation of CB2 receptors works as a liver protectant



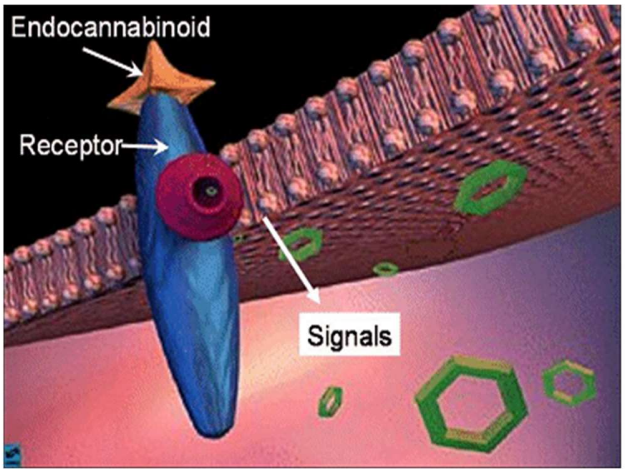
9 THE ECS & IMMUNE SYSTEM

- CB2 expression strongly in immune cells
- T-cells, b cells, NK cells, macrophages, monocytes and neutrophils
- CB2 receptors regulate the immune tolerance in the gut and the pancreas.
- CB2 activation reduces interleuken-6 (il-6) and interleukin -8 (il-8) dropping systemic inflammation
- Endogenous cannabinoids inhibit the production of proinflammatory cytokines and increase the production of anti-inflammatory cytokines throughout the inflammatory response.
- This is important as cannabinoids reduce cytokine storm produced by virus
- Cannabinoid based therapies may be of benefit in numerous autoimmune, neurodegenerative and neuroinflammatory disorders

10 THE ECS & CARDIOVASCULAR SYSTEM

- AEA decreased the incidence of ventricular arrhythmias and reduced infarct size through activation of CB2 receptors
- CB2 receptor activation initiates protective mechanisms in cardiac myocytes.
- vascular smooth muscle cells & cardiac myocytes produce endocannabinoids which can interact with CB1 receptors
- CB2 activation has protective effects with myocardial infarction, restenosis (post surgical blockage), stroke and atherosclerosis.
- CB2 receptor activation inhibits disease progression of atherosclerosis

11 ENDOGENOUS (INTERNA) AND EXOGENOUS (EXTERNAL) CANNABINOIDS



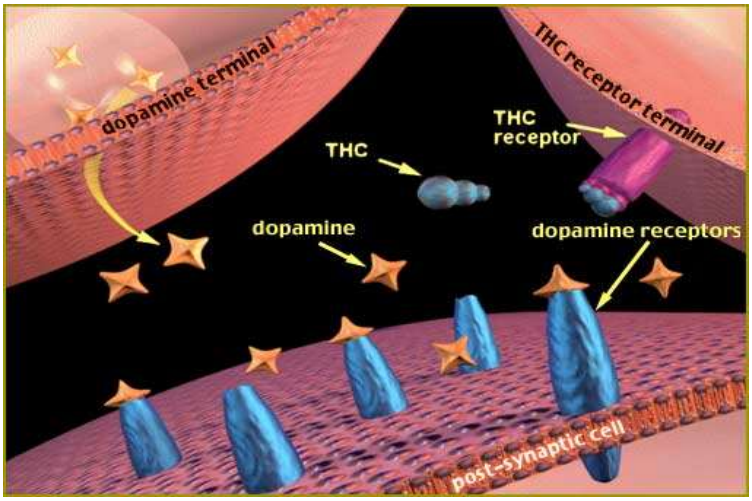
11.1 ENDOCANNABINOIDS – INTERNAL CANNABINOIDS

- Endocannabinoids are lipid based retrograde neurotransmitters, produced by the body, that bind to endocannabinoid receptors
- Endocannabinoids are made and released by the cells on demand as a response to a trigger. Triggers include injury, illness, inflammation or other imbalances.
- The 2 main Endocannabinoids that we have within our bodies are:
  - Anandamide (AEA) – strong affinity with CB1 receptors
  - Arachidonoyl Glycerol (2-AG) - strong affinity with CB2 receptors
- There are several fewer known endocannabinoids that play a significant role and function within the endocannabinoid system

11.2 EXOGENOUS OR EXTERNAL CANNABINOIDS

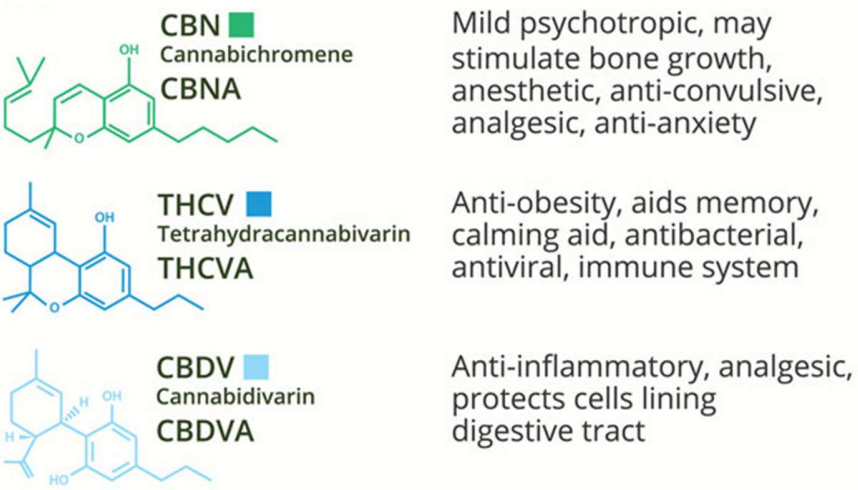
- Exogenous cannabinoids are produced outside of the body
- The cannabinoids in marijuana are called Phytocannabinoids (plant-based cannabinoids)
- There are at least 120 different Phytocannabinoids have been isolated from cannabis plants.
- Exogenous cannabinoids - THC & CBD also trigger neuroplastic changes to the brain - and act on:
  - areas that control pleasurable activities like eating and sex
  - and the enhancement of a process called fear extinction – which is essential for preventing and recovering from post traumatic stress
- the main cannabinoids being used today are THC, CBD and CBN
- Terpenes in plants, are volatile unsaturated hydrocarbons (essential oils) which can also activate endocannabinoid receptors

12 PHYTOCANNABINOIDS



12.1 BENEFITS OF PLANT CANNABINOIDS

CANNABINOID	BENEFIT
THC Tetrahydrocannabinol THCA	Psychotropic, painkiller, anti-inflammatory, anti-microbial
CBD Cannabidiol CBDA	Relieve anxiety, convulsions, depression, inflammation and nausea sedative, sleep aid and muscle relaxant
CBC Cannabichomene CBCA	Anti-inflammatory, painkiller, treats acid reflux, anti-anxiety,antidepressant
CBG Cannabigerol CBGA	Painkiller, muscle relaxant, anti-erythemic analgesic, digestive aid, stomachic (stomach function)



12.2 **PHYTO CANNABINOID - Δ9-THC (strong affinity with CB1 receptors)**

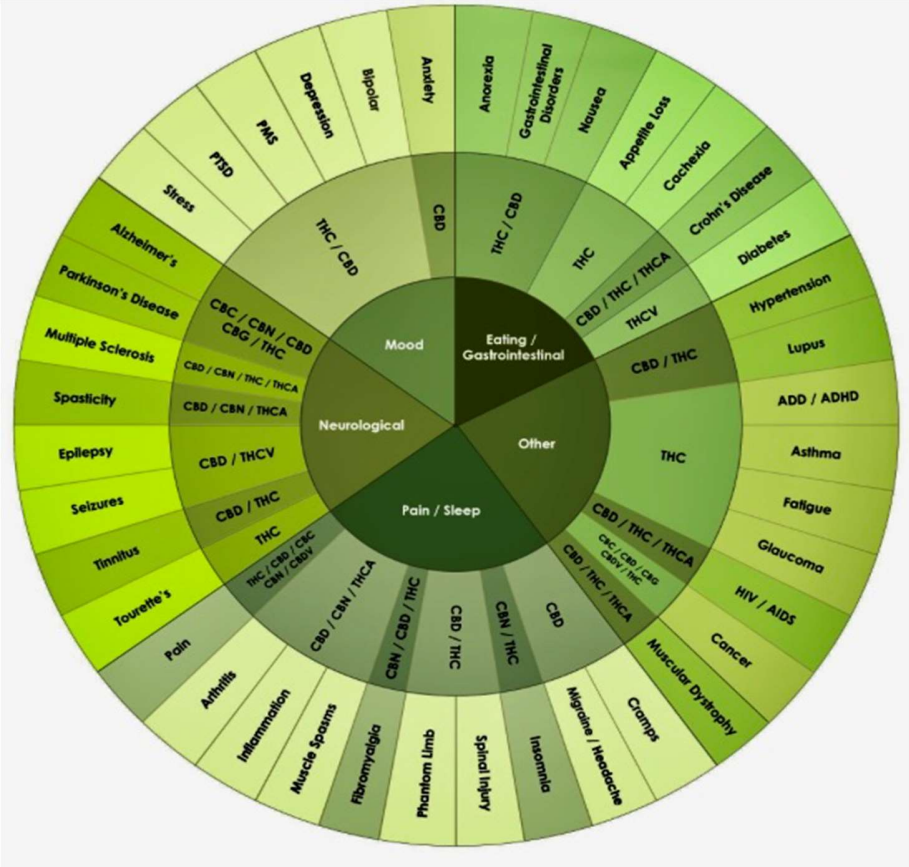
- Psychoactive
- Sedating / relieving
- Analgesic (pain relieving)
- Reduces / stops nausea and vomiting
- Stimulates appetite
- Induces sleep
- Reduces anxiety & depression
- Reduces intra-occular eye pressure
- Anti-oxidant
- Anti-inflammatory
- Anti tumor effects

12.3 **PHYTO CANNABINOID – CBD (Strong affinity with CB2 receptors)**

- Not psychoactive – no “high” effects
- Alerting in low doses
- Reduces pain
- Relieves muscle spasm
- Potent anti-inflammatory
- Stops nausea and vomiting
- Reduces anxiety and depression
- Counters psychotic thoughts
- Anti-oxidant
- Anti-convulsant
- Neuro-protective
- Anti-tumor effects

- Reduces “high” effects of THC

12.4 **CANNABINOID WHEEL**



US DEPT OF HEALTH & HUMAN SERVICES owns a patent (US – 6,630,507 B1- 2003) on the use of CANNABINOIDS AS ANTIOXIDANTS AND NEUROPROTECTANTS

(The authors of their patent discuss the use of potential benefits in neurodegenerative diseases like MS, ALZ, Parkinson's and Huntington's chorea, I would add Prion Syndrome to this list)

US006630507B1

(12) **United States Patent**
Hampson et al.

(10) **Patent No.: US 6,630,507 B1**
(45) **Date of Patent: Oct. 7, 2003**

(54) **CANNABINOIDS AS ANTIOXIDANTS AND NEUROPROTECTANTS**

(75) Inventors: **Aidan J. Hampson**, Irvine, CA (US); **Julius Axelrod**, Rockville, MD (US); **Maurizio Grimaldi**, Bethesda, MD (US)

(73) Assignee: **The United States of America as represented by the Department of Health and Human Services**, Washington, DC (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/674,028**

(22) PCT Filed: **Apr. 21, 1999**

OTHER PUBLICATIONS

Windholz et al., The Merck Index, Tenth Edition (1983) p. 241, abstract No. 1723.*
Mechoulam et al., "A Total Synthesis of d1–Δ^1–Tetrahydrocannabinol, the Active Constituent of Hashish[1]," *Journal of the American Chemical Society,* 87:14:3273–3275 (1965).
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Consroe et al., "Acute and Chronic Antiepileptic Drug Effects in Audiogenic Seizure–Susceptible Rats," *Experimental Neurology,* Academic Press Inc., 70:626–637 (1980).
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Carlini et al., "Hypnotic and Antielpileptic Effects of Can-

DR Ethan Russo (Neurologist Psychopharmacology researcher) in 2003 postulated links with Modern diseases and EndoCannabinoid Deficiencies and the impairment and dysfunction of the Endocannabinoid System.

13 DISEASES LINKED TO ENDOCANNABINOID DEFICIENCY

- Epilepsy
- Migraine headaches
- Fibromyalgia/ myofascial pain syndrome
- Irritable bowel syndrome
- Complex regional pain syndrome
- Auto immune disease
- Cardiovascular disease
- Anxiety & depression
- Schizophrenia
- Multiple sclerosis
- Nausea
- Motion sickness
- Huntington's disease
- Parkinson disease
- Menstrual problems
- Failure to thrive newborns
- Anorexia
- Obesity
- Type 2 diabetes

14 THE ECS & COMMON DRUG INFLUENCES

- NSAIDS (nonsteroidal anti-inflammatory drugs)
- Ibuprofen (ie advil, nurofen) and ketorolac (toradol) block the breakdown of AEA by blocking FAAH
- Cox2 inhibitors (ie celebrex, indomethacin, vioxx)
- Raise levels of AEA and 2-AG
    - Enhances CB1 signalling
- Glucocorticoids (prednisone, prednisolone, dexamethasone, hyrdocortisone)
- Acute glucocorticoid administration enhances the activity of endocannabinoids
- Chronic exposure to glucocorticoids downregulates the endocannabinoid system, creating an environment consistent with chronic stress

Acetaminophen (TYLENOL):

- Blocks the breakdown of AEA by FAAH.
- Can raise brain AEA and 2-AG levels.
- The analgesic activity of acetaminophen is blocked by CB1 or CB2 receptor
    - Antagonists

Benzodiazepines (diazepam, valium, xanax, alprazolam, ativan):

- CB1 receptors play a pivotal role in the anxiolytic action of benzodiazepines
- Other psychiatric medications also have effects on the ECS and should be taken at different times to cannabis medicine

Alcohol:

- dampens the effects of the ECS.
- Chronic consumption and binge drinking IS likely TO desensitize or down regulate CB1 receptor response and impair ECS signalling

Probiotics:

- Increases CB2 receptor response in colonic epithelial cells
- The action of the intestinal CB2 receptors might be part of the mechanisms underlying the beneficial effects of probiotics in IBS

15 THE ECS AND HERBAL MEDICINES

Curcumin:

- Elevates endocannabinoid levels and brain nerve growth factor (NGF) in specific regions of the brain

Echinacea:

- Echinacea is a potent ACTIVATOR of CB2 receptors with immunomodulatory effects yet does not activate CB1 receptors.

Copal (BOSWELLIA genera along with Frankincense and Myrrh):

- Copal contains a terpenoid that has a high affinity with both CB1 and CB2 receptors

β-caryophyllene (principal terpenoid in CBD, Black pepper & Bay leaves)

- is a CB2 activator
- Has protective effects in colitis and cisplatin-induced nephrotoxicity via CB2 activation

16 LIFESTYLE AND THE ECS

Exercise:

- Medium to high-intensity voluntary exercise increases serum AEA levels, and possibly increased CB1 expression. The runner's high is attributed to this effect
- Forced exercise does not increase AEA and can decrease CB1 signalling. This is perceived by the ECS as a type of stress

Stress and social play:

- Chronic stress impairs the endocannabinoid system, via decreased levels of AEA and 2-AG.
- Social play increases CB1 activation in the amygdala and nucleus accumbens. Areas of brain responsible for the enjoyment of pleasurable activities

Electro Acupuncture

- Increasing the expression and activation of CB2 receptors in skin tissues
- Osteopathic manipulation (omt)
- Serum levels of AEA more than doubled after omt therapy

17 CARING FOR THE ECS

- Endocannabinoids are derived from arachidonic acid (aa)- polyunsaturated omega -6 fatty acids
- Dietary supplementation with omega 6 fatty acids increased serum levels of AEA and 2-AG
- Excessive levels of omega 6 fatty acids, can lead to excessive levels of endocannabinoids which in turn lead to desensitization and down regulation of both CB1 and CB2 receptors.
- Adequate levels of dietary omega 3's (epa & dha) in correct balance – (1-2-1) are required for proper endocannabinoid action
- Increasing l. Acidophilus in diet in turn increases the expression of CB2 receptors
- Pesticides alters normal endocannabinoid system function.
- Eating organic is important for endocannabinoid health
- Phthalates block CB1 receptors

- Diets rich in hydrogenated fats and sugars alter levels of AEA, 2-AG, their metabolic enzymes, and CB1 activation
- Although activation of the ECS stimulates appetite, the use of phytocannabinoids, including marijuana, is associated with lower body weight.
- Phytocannabinoids help support healthier body composition levels. Hemp seeds and oils are a great food for the ECS

"The ECS is essential to life and effects how we relax, eat, sleep, forget and protect"

Vincenzo Di Marzo PhD

"Only time and the scientific method will ascertain whether a new paradigm is applicable to human physiology and treatment of its derangements. Our insight into these possibilities is dependent on the contribution of one unique healing plant; for clinical cannabis has become a therapeutic compass to what modern medicine fails to cure "

DR Ethan B Russo

Please contact us if you would like information on Reference Material used for this presentation.

PRESENTATON 2

HERBAL MEDICINE FOR IMMUNITY

By Colette Baron Ba, Herbal Medicine

1 WHAT IS OUR IMMUNE SYSTEM?

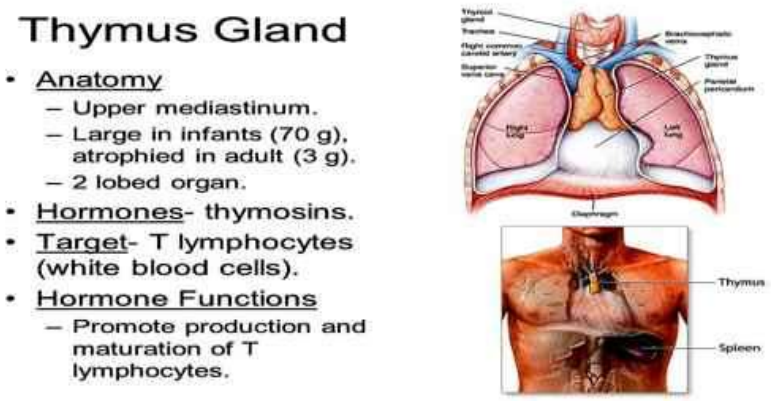
1.1 The main parts of the immune system are:

- White blood cells
- Antibodies
- Complement system
- Lymphatic system
- Spleen
- Bone marrow
- Thymus

1.2 Thymus Gland:

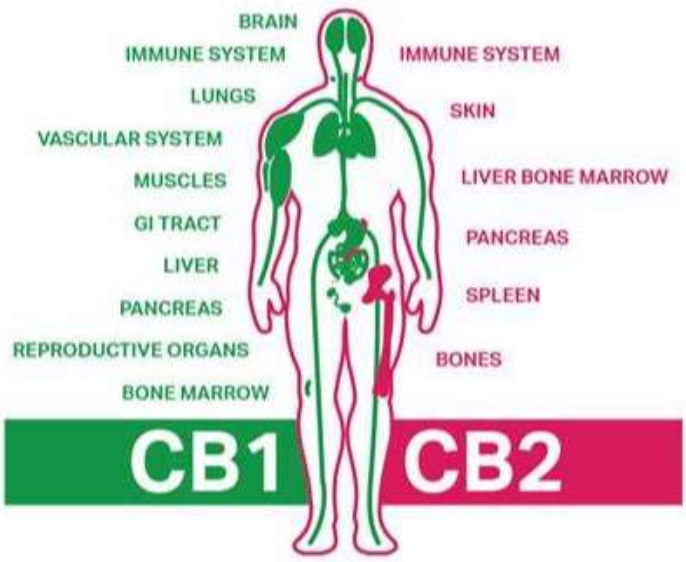
- The thymus gland is biggest in infants and shrinks as we get older

- We can keep it healthy through good nutrition, exercise and good sleep



1.3 **The Endocannabinoid System**

- This is throughout our bodies and the receptors bind to cannabinoids like a lock and key
- Still only a fairly newly discovered system



1.4 **The Body's other Defenses against Microbes**

- As well as the immune system, the body has several other ways to defend itself against microbes, including:
- skin - a waterproof barrier that secretes oil with bacteria-killing properties
- lungs - mucous in the lungs (phlegm) traps foreign particles, and small hairs (cilia) wave the mucous upwards so it can be coughed out

- digestive tract - the mucous lining contains antibodies, and the acid in the stomach can kill most microbes
- other defences - body fluids like skin oil, saliva and tears contain anti-bacterial enzymes that help reduce the risk of infection. The constant flushing of the urinary tract and the bowel also helps.

1.5 **Fever**

- Fever is an immune system response
- A rise in body temperature, or fever, can happen with some infections. This is actually an immune system response. A rise in temperature can kill some microbes. Fever also triggers the body's repair process.

2 FUNCTIONAL FOODS

- Foods that not only nourish but are also performing other positive functions in the body
- Many herbs and spices commonly used such as Garlic, ginger, turmeric, parsley etc
- Herbal Teas and Chai
- The closer to the natural state of the foods we eat, then generally the better they are for us
- Avoid processed foods as much as possible
- Eating fresh fruit and vegies gives our bodies the nutrients needed to protect, and function at maximum capacity
- The more we put natural, fresh foods into our bodies the less load we put on our liver and other cleansing organs
- Of course, organic is best
- Every system in our bodies needs the nutrients found in food to function

3 KEY NUTRIENTS FOR IMMUNE SYSTEM

- Vitamin A
- Vitamin C
- Vitamin E
- Selenium
- Zinc

4 HERBS FOR IMMUNITY

Andrographis:

- Andrographis has the principles of:
- Bitter tonic, anti inflammatory, antipyretic, antibacterial, liver protective and is also an immunomodulant.
- Great for the upper respiratory tract and feverish states, minor fatigue and convalescence.

Astragalus:

- Astragalus has the principles of:
- immunomodulant, anti-inflammatory, antibacterial, anti viral and antioxidant.
- Its is a fantastic tonic
- It is easily accessed and great drunk as a tea

Bupleurum:

- Properties:
- Anti-inflammatory, Analgesic, Immunomodulant, sedative, liver protective, sedative
- Bupleurum, as with the others has great properties

Cannabis:

- Properties of:
- CBD, THC, CBDA, CBGA, CBN and others
- Anti-inflammatory, pain reducing, anti-anxiety, anti-emetic, sleep tonic. Used in cancer treatment. Great for PTSD and neurological conditions.
- The introduction of medical cannabis can help reduce the use of opiates in severe pain.
- Whole plant best

Dandelion:

- Properties of:
- Bitter tonic, hepatobiliary effects, diuretic and also showing anti cancer properties
- All of the plant can be used and leaves can be used in salad, root dried to make a coffee substitute
- When wildcrafting ensure not near sprayed areas or dog poo

Echinacea:

- Principles of:
- Immunomodulant, and great topical for many conditions, shortens the duration of cold and flu
- Cautions around auto immune diseases

Lemon Balm:

- Properties of:
- Anti Viral (against herpes), antibacterial, carminative, anti spasmodic
- Used for headaches and insomnia, anxiety, feverish states, herpes as a wash

Medicinal mushrooms:

- Many mushrooms have been shown to have immune defense against many diseases including cancer and gut support
- Some are Shiitake, Reishi, Lions Mane, Cordyceps, Ganoderma, Chaga and Turkey Tail.
- Can be purchased easily as drops or powders, or incorporated into cooking

Olive leaf:

- Principles of:
- Immunostimulant for recurring common and relapsing bacterial and infections. Anti-oxidant, and has many properties, including reducing hypertension and cholesterol and is hypoglycemic.
- Can be picked fresh and brewed into a tea.

Schisandra:

- Principles of:
- Immunomodulant, neurotonic, antioxidant, antimicrobial
- It is a great tonic herb and great for a general decreased immune response.
- Good for respiratory, genitourinary tract and skin (eczema etc)

Siberian Ginseng:

- Properties of: Immunomodulant tonic and Adaptogenic
- One of my favourite tonic herbs
- Great also after antibiotic use and for adjuvant therapy for cancer with allopathic treatment

5 OTHER FACTORS TO CONSIDER

- Stress is a killer
- Earthing
- Diet
- Exercise
- Self care

6 SOUL FOOD

- Take time to just breathe, and be in awe of the world around us
- Gratitude is a gift that is good for our soul
- When our soul is at peace we are clearer, and more likely to make healthy choices