



Medical Cannabis for Chronic Pain*

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***SATELIT SIMPOSIUM 13 dalam PIT & MUKERNAS PDUI XIII**

Jakarta, 20-23 Oktober 2023

Outline

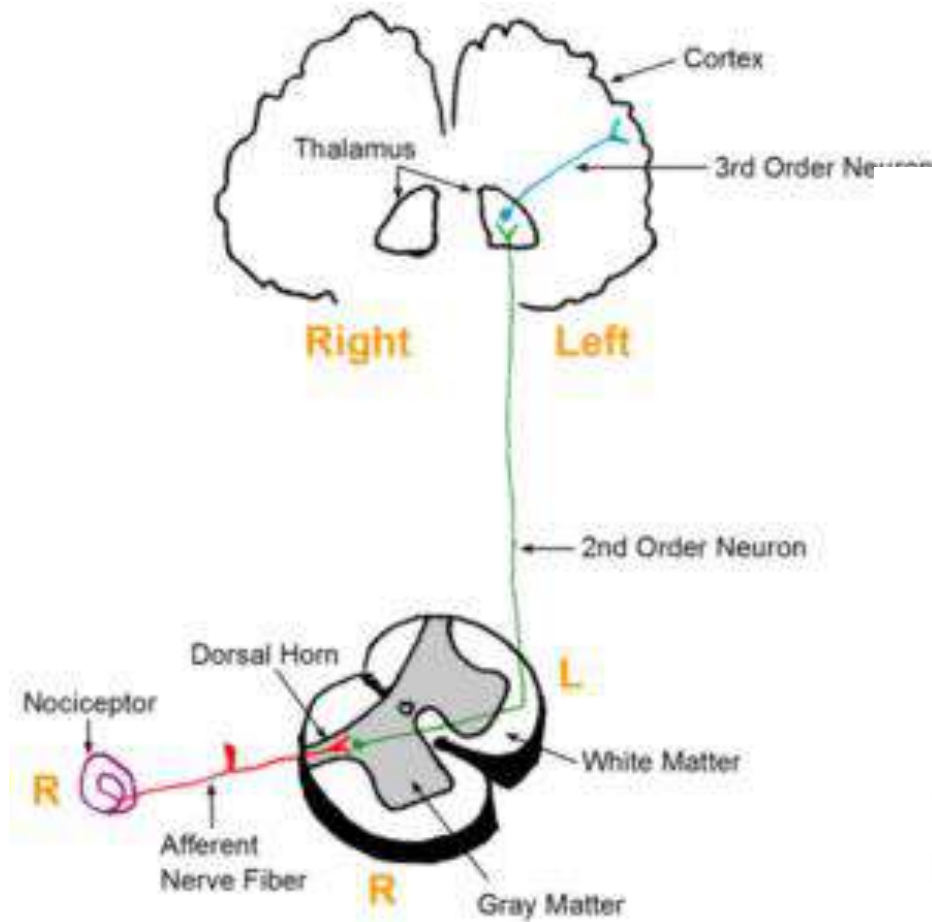
- Introduction
- Pain pathways
- Endocannabinoid system (ECS)
- Cannabis tree: History of medical cannabis
- Biosynthesis of phytocannabinoids
- Terpenoids
- Medical cannabis for chronic pain: Systematic reviews & Meta analysis
- Challenges
- Conclusion



Introduction

- Chronic pain, typically defined as pain lasting longer than 3 to 6 months, affects approximately 100 million persons in the United States and adversely affects physical and mental functioning, productivity, and quality of life.
- Neuropathic pain is usually divided according to the cause of nerve injury. There may be many causes, but some common causes of neuropathic pain include diabetes (painful diabetic neuropathy (PDN)), shingles (post-herpetic neuralgia), amputation (stump and phantom limb pain), neuropathic pain after surgery or trauma, stroke or spinal cord injury, trigeminal neuralgia, and HIV infection. Sometimes the cause is unknown

Pain pathways



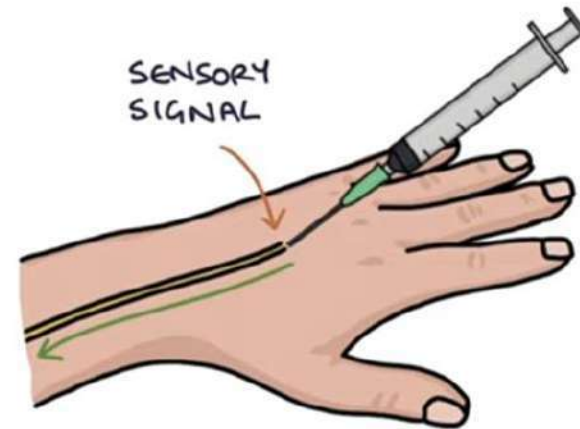
PAIN PHYSIOLOGY

SENSORY EXPERIENCE

AFFECTIVE EXPERIENCE

"SHARP SENSATION"

"IT'S EXCRUCIATING"



EMOTIONAL REACTION



Nociceptive pain: somatic or visceral. Somatic pain receptors are located in skin, subcutaneous tissues, fascia, other connective tissues, periosteum, endosteum, and joint capsules. Produces sharp or dull localized pain, but burning is not uncommon if the skin or subcutaneous tissues are involved.

Visceral pain receptors: in most viscera and the surrounding connective tissue. Visceral pain due to obstruction of a hollow organ is poorly localized, deep, and sometimes cramping and may be referred to remote cutaneous sites. Visceral pain due to injury of organ capsules or other deep connective tissues may be more localized and sharp.

Endocannabinoid system (ECS)

- ECS receptors were found in 90s: CB1 & CB2
- CB1 expressed in CNS and Peripheral nervous system (PNS)
- CB2 expressed keratinocytes, immune cells, cells of PNS, microglia and spinalchord.
- Endogenous ligands (endocannabinoids): primarily anandamide, 2-arachidonylglycerol [2-AG], and ligand metabolizing enzymes → ECS

● CB1

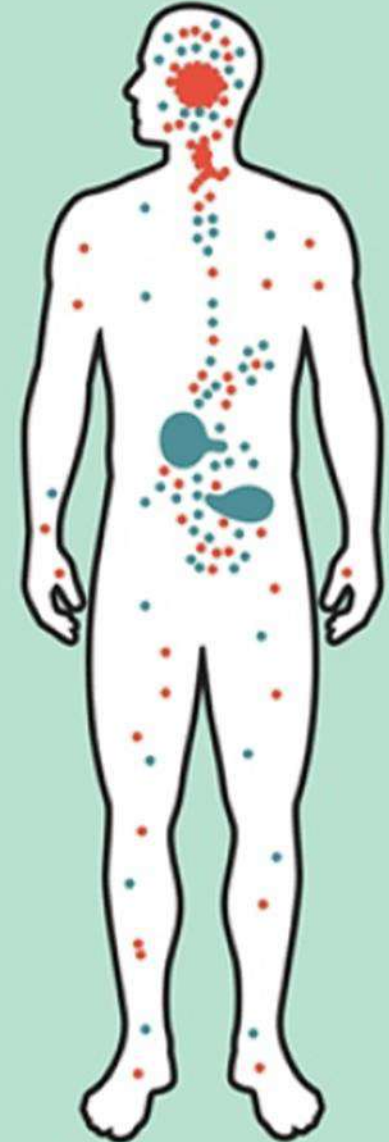
Receptors target:

- Motor activity
- Thinking
- Motor co-ordination
- Appetite
- Short term memory
- Pain perception
- Immune cells

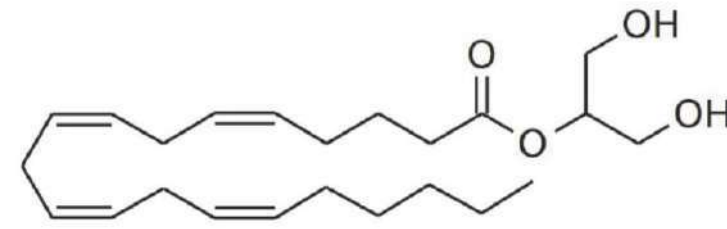
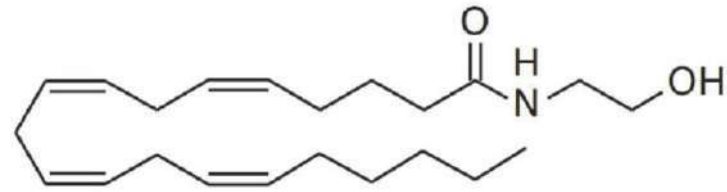
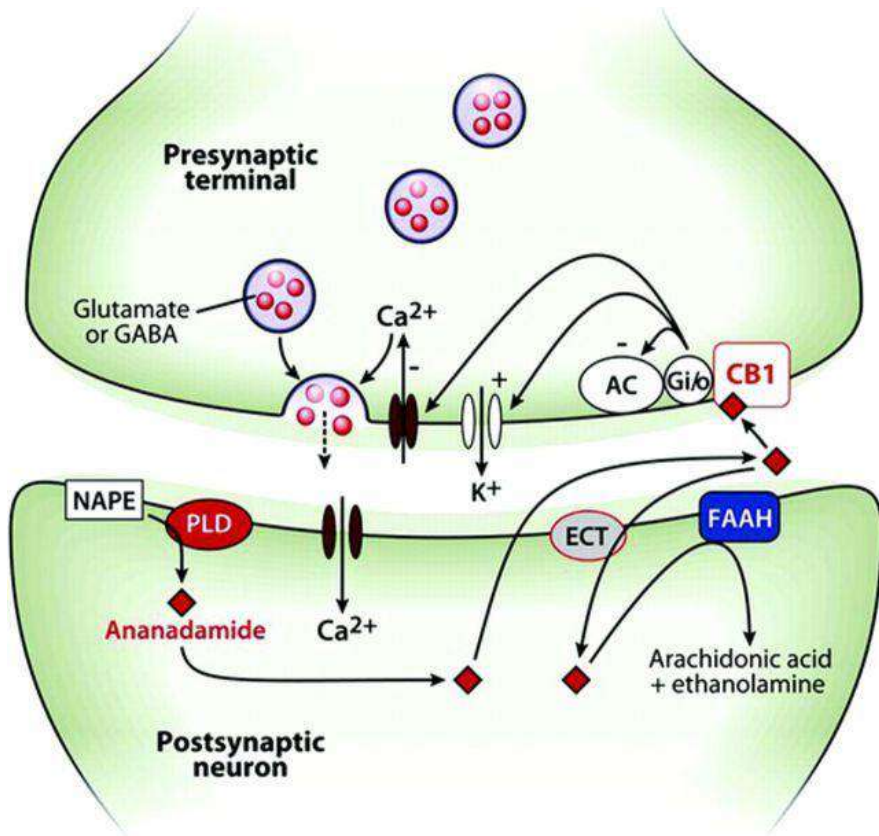
● CB2

Receptors target:

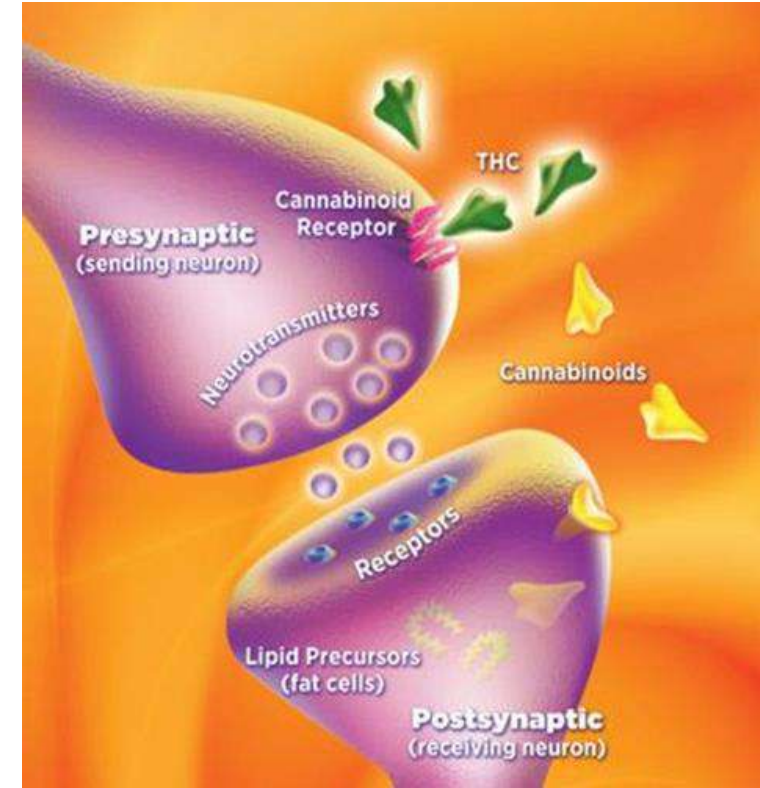
- Gut
- Kidneys
- Pancreas
- Adipose tissue
- Skeletal muscle
- Bone
- Eye
- Tumours
- Reproductive system
- Immune system
- Respiratory tract
- Skin



Endocannabinoids & THC



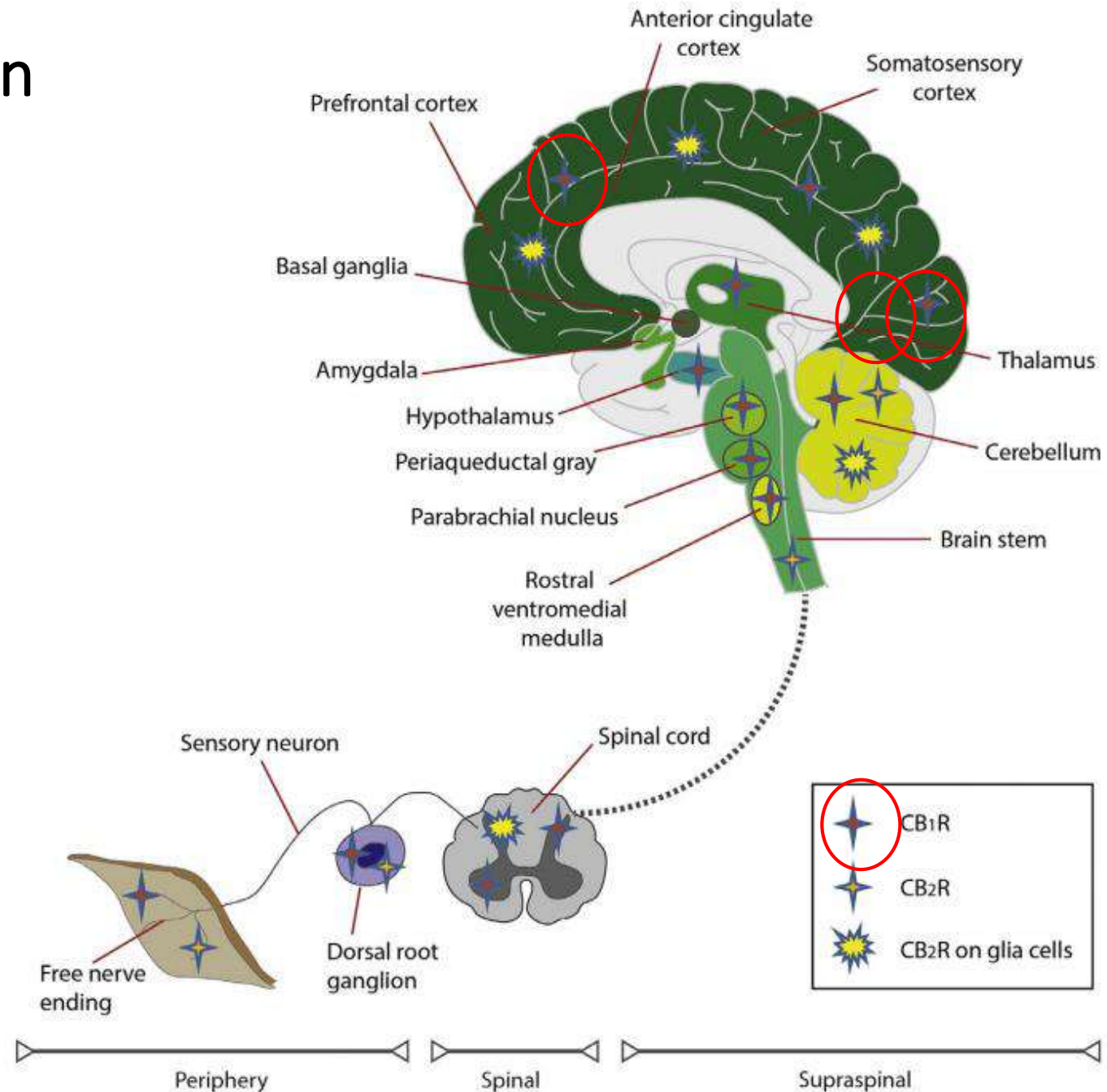
2-ARACHIDONOYLGLYCEROL (2-AG)



Cannabinoid receptor distribution throughout the pain pathways.

CBD receptors are present at all three levels of pain processing:

- A. In the periphery (CB1R); Dorsal root ganglion (CB1R, CB2R)
- B. In spinal cord (CB1R), CB2R expressed on glial cells highly restricted to lumbar spinal cord
- C. In the supraspinal sites: CB1R is distributed in areas of the brain involved in pain processing, perception, and modulation, e.g., thalamus, amygdala, parabrachial nucleus, periaqueductal gray matter, and rostroventral medulla.



The Cannabis Family



Scientific classification

- Kingdom: Plantae
- Division: Magnoliophyta
- Class: Magnoliopsida
- Order: Urticales
- Family: Cannabaceae
- Genus: Cannabis
- Species: *C. sativa*
C. indica
C. ruderalis



C. sativa



C. indica



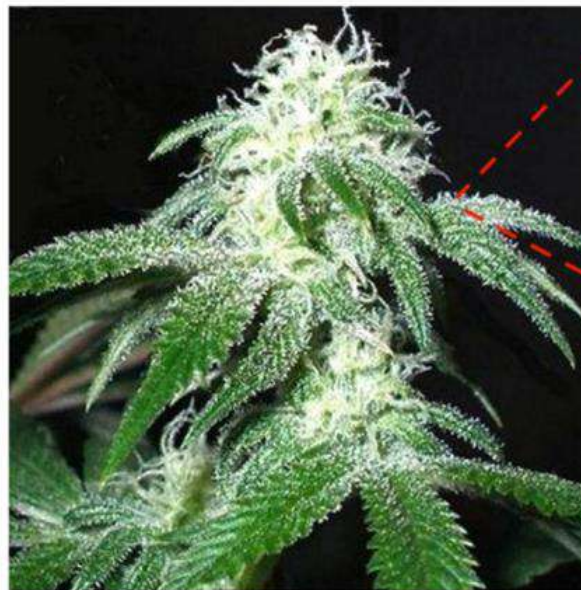
C. ruderalis

Cannabis tree

The medical use of *C. sativa* dates back about 5000 years ago, when the emperor Chen Nung, defined king and “father” of Chinese agriculture, drew up the first Chinese pharmacopeia.

C. sativa was prescribed for fatigue, rheumatism, and malaria.

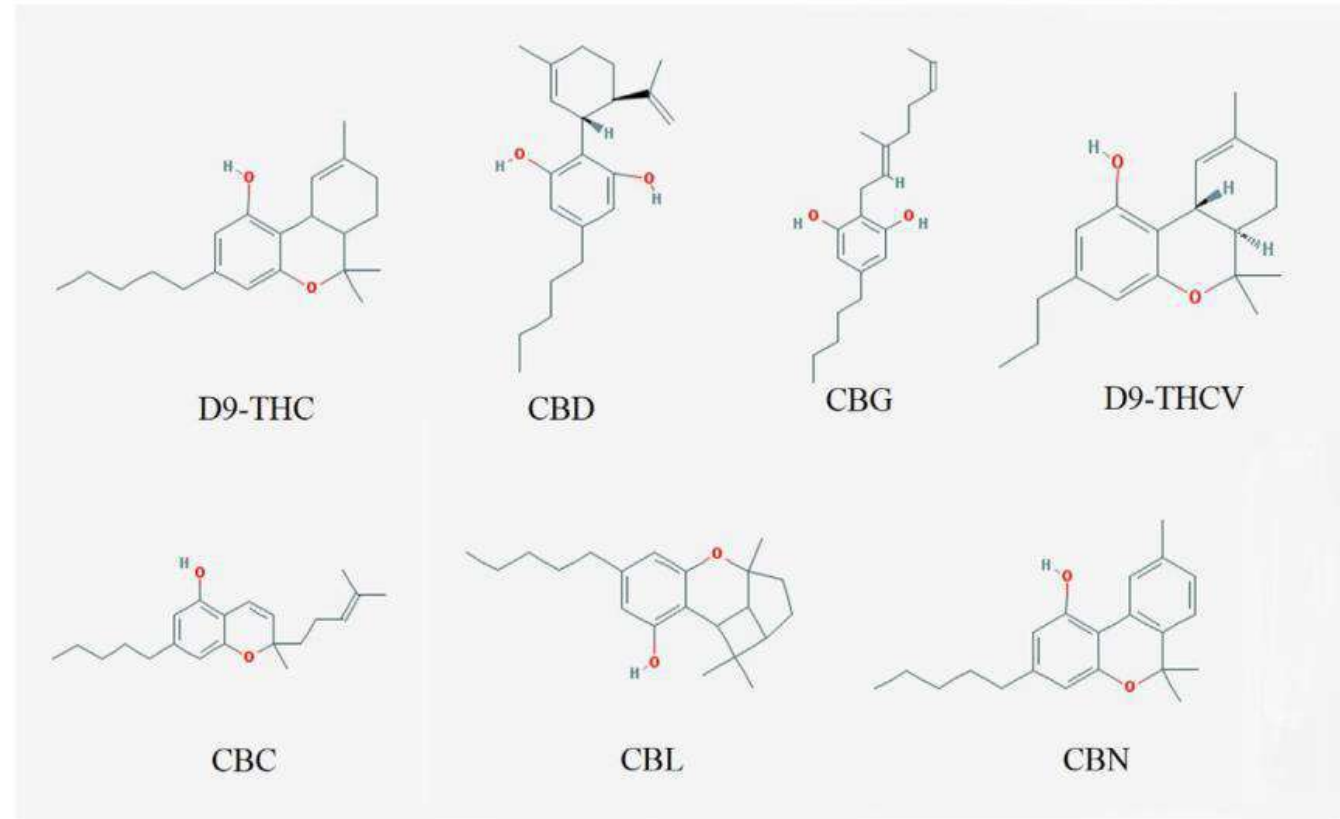
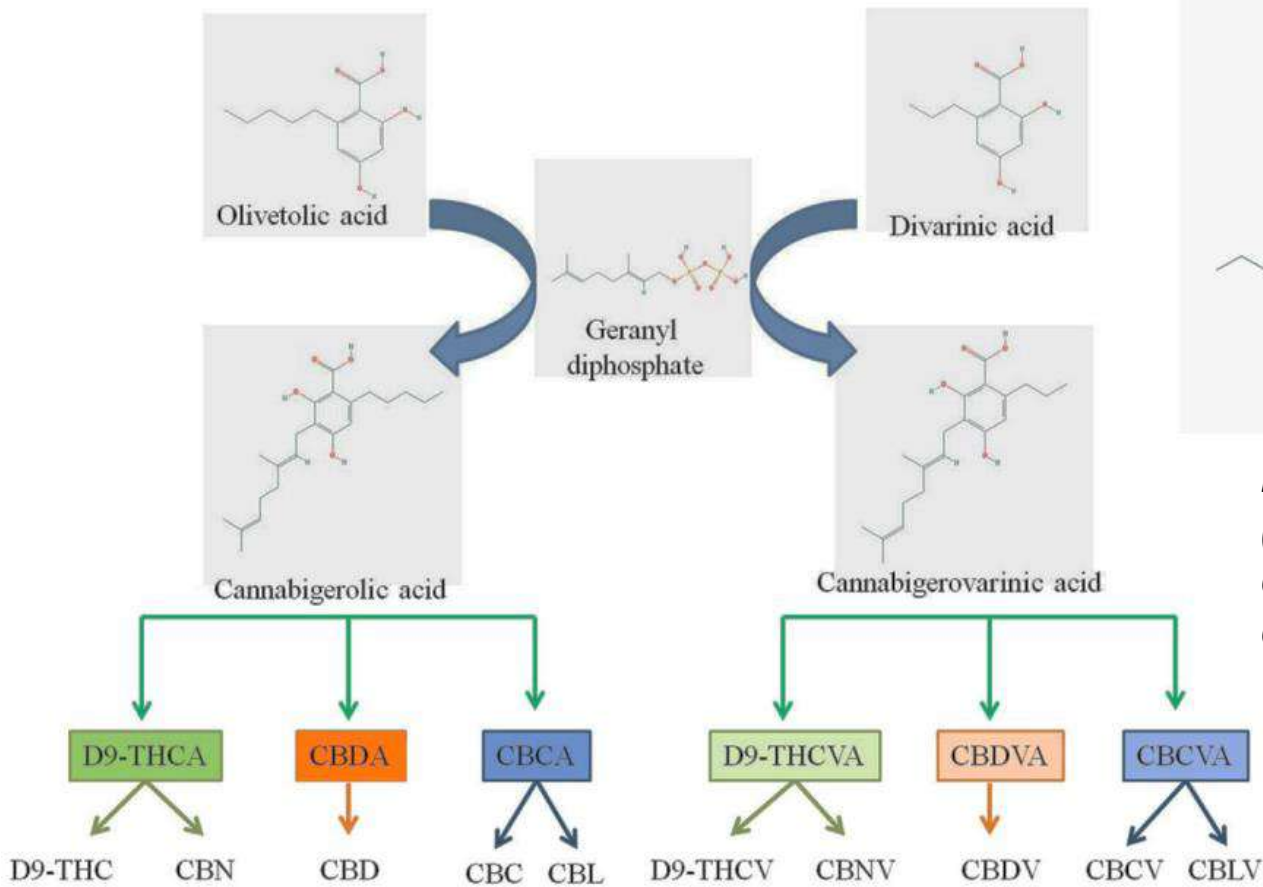
Chinese physicians used the seeds of *C. sativa* mainly for their vegetal oils and proteins. The seeds of *C. sativa* are rich in γ -linoleic acid recommended for eczema and psoriasis, and its oral use for inflammatory diseases.



trichomes



Biosynthesis of phytocannabinoids



Phytocannabinoids of Cannabis sativa: Δ 9-tetrahydrocannabinol (D9-THC), cannabidiol (CBD), cannabigerol (CBG), Δ 9-tetrahydrocannabivarin (D9-THCV), cannabichromene (CBC), cannabicyclol (CBL), Cannabinol (CBN).

(Bioactive) Chemical compounds in Cannabis

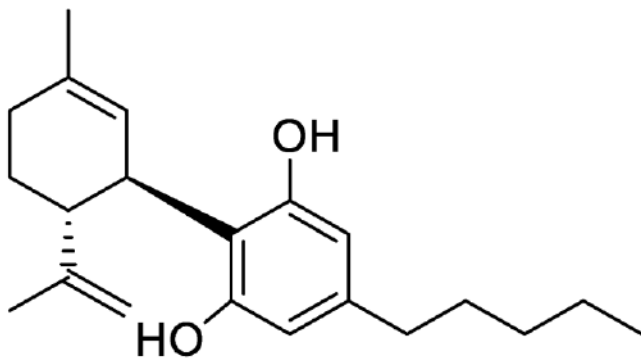
- 1269 known chemical compounds in/on Cannabis
- Cannabinoids (144 known in Cannabis)
 - THC, CBD, CBN, CBG, CBC, THCV, etc.
 - THCA, CBDA, CBGA, CBCA, etc.
 - Diverse array of therapeutic effects
- Terpenes & Terpenoids (150 known in Cannabis)
 - Limonene, Linolool, Pinene, Myrcene, b-Carophyllene
 - Smell attributes and diverse therapeutic effects
- Flavonoids (50 known in Cannabis)
 - Apigenin, Cannflavin-A, Kaempferol, Vitexin, Orientin
 - Very strong anti-oxidants – diverse therapeutic effects

Terpenes & Terpenoids

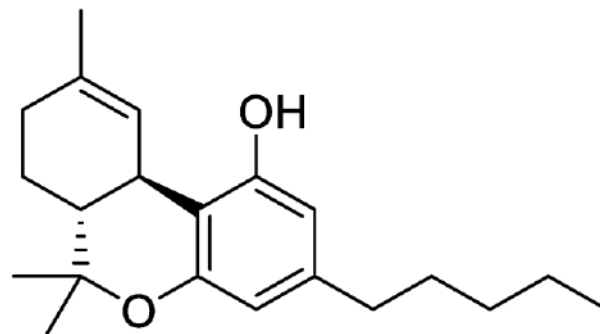
- Over 200 Terpenoids, responsible for the fragrance of *C. sativa*, have been identified in the flower, leaves of the plant, and may represent 10% of the trichome contents.
- D-Limonene: anxiolytic effect in mice
- myrcene, and pinene are most common and highly volatile: is a terpenoid widespread in *C. sativa*, with prominent brain activities. In particular, myrcene shows an analgesic profile and muscle relaxant in mouse models. Also has anti-inflammatory activity via Pg-E2.
- Alpha-pinene: anti-inflammatory, bronchodilator and antibacterial in models
- D-linalool: anxiolytic and sedative activity. Local anesthetic compared to procaine and menthol. Anticonvulsant, antiglutamergic, antinociceptive activities in mice.

Natural, and synthetics Cannabinoids

- Nabiximols (Sativex®) is an cannabinoids extract and sold as a mouth spray intended to alleviate neuropathic pain, spasticity, overactive bladder, and other symptoms of multiple sclerosis
- Active components are the cannabinoids: tetrahydrocannabinol (THC) and cannabidiol (CBD). Each spray delivers a dose of 2.7 mg THC and 2.5 mg CBD.
- Indication: Pain due to damage to the somatosensory system (FDA 1995), Pain due to cancer (FDA 1997)



(-)-Cannabidiol (CBD)

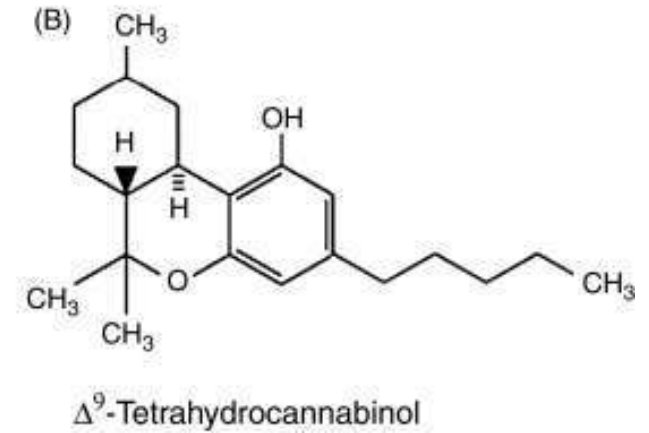
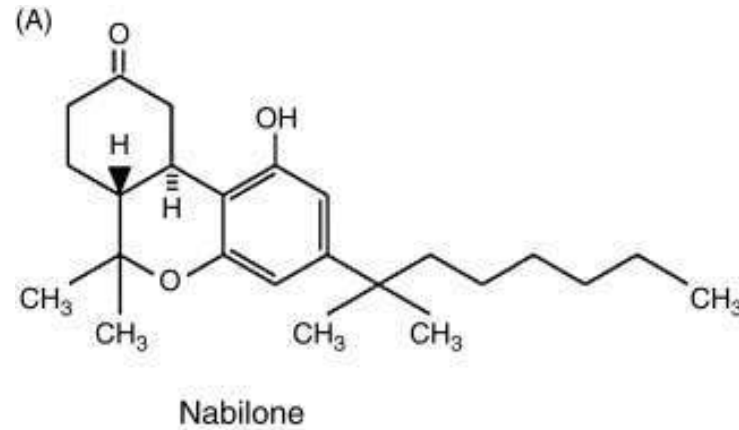


(-)-Δ⁹-Tetrahydrocannabinol (THC)



Nabilone

- **Nabilone** is a synthetic cannabinoid that acts centrally. It is used in the treatment of refractory nausea and vomiting and neuropathic pains.
- MoA: through CB1R
- Abs: rapid & complete
- Distr.: ~ 12.5 L/kg
- Metab: Oxidation, stereospecific enzyme reduction
- T_{1/2}: parent ~ 2 hrs, metabolite: ~35 hrs



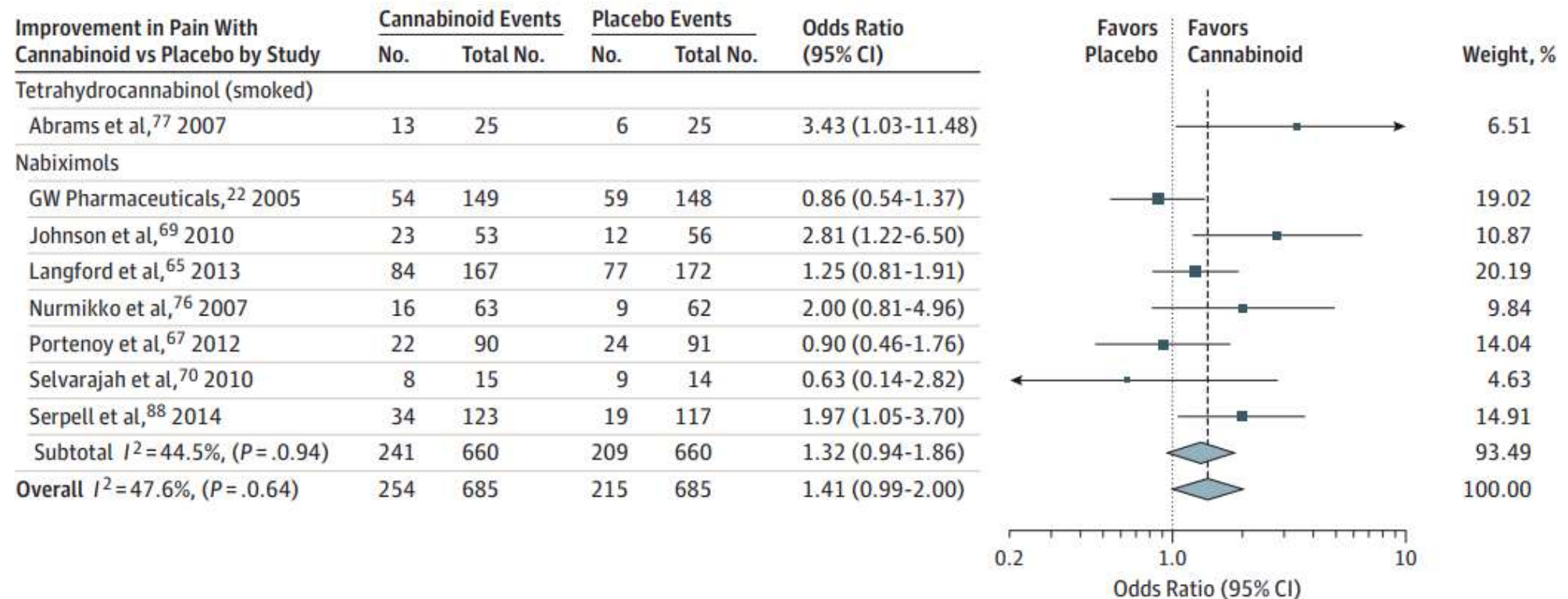
Nabilone



Cannabis for medical use. A systematic review & Meta analysis

(Whiting PF et al (2015, JAMA. 2015;313(24):2456-2473. doi:10.1001/jama.2015.6358)

Figure 2. Improvement in Pain



Odds indicate 30% or greater improvement in pain with cannabinoid compared with placebo, stratified according to cannabinoid. The square data markers indicate odds ratios (ORs) from primary studies, with sizes reflecting the statistical weight of the study using random-effects meta-analysis. The

horizontal lines indicate 95% CIs. The blue diamond data markers represent the subtotal and overall OR and 95% CI. The vertical dashed line shows the summary effect estimate, the dotted shows the line of no effect (OR = 1).

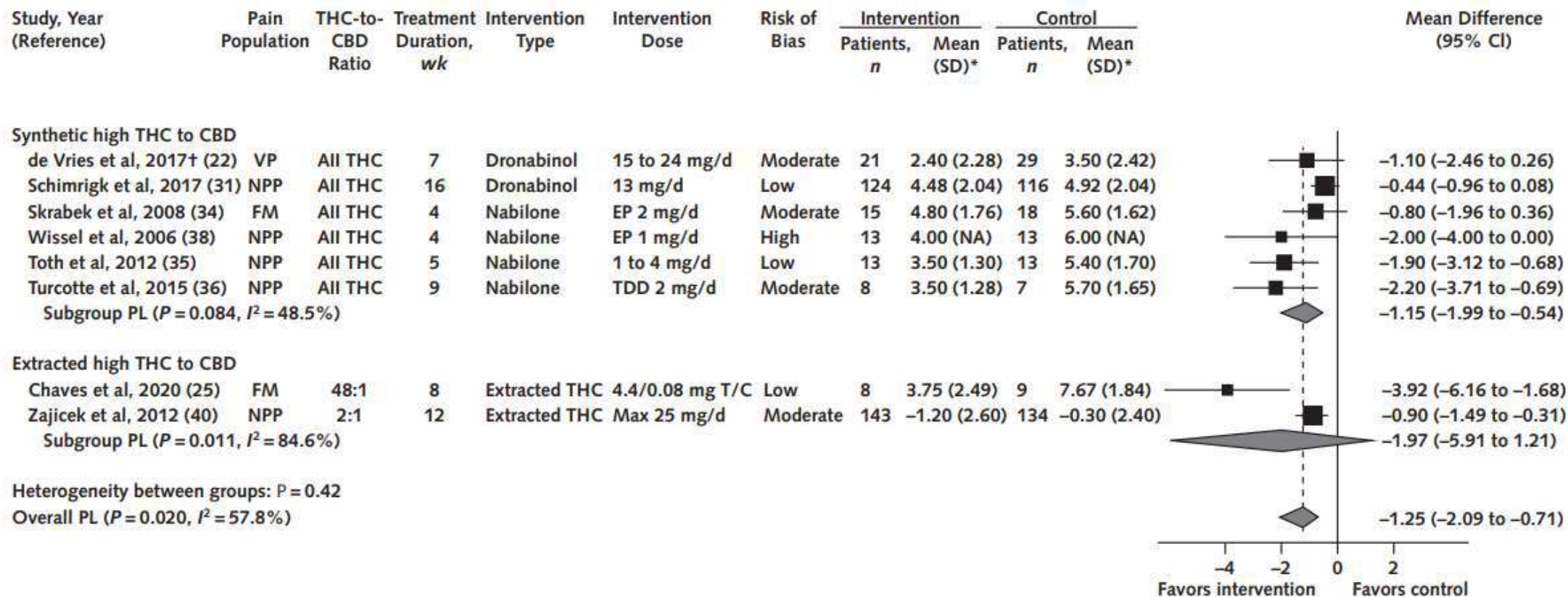
Cannabis-based medicines for chronic neuropathic pain in adults (Review) (Cochrane Database of Systematic Reviews 2018, Issue 3)

- Cannabis-based medicines may increase the number of people achieving 50% or greater pain relief compared with placebo (21% versus 17%; risk difference (RD) 0.05 (95% confidence interval (CI) 0.00 to 0.09); NNTB 20 (95% CI 11 to 100); 1001 participants, eight studies, low-quality evidence).
- We rated the evidence for improvement in Patient Global Impression of Change (PGIC) with cannabis to be of very low quality (26% versus 21%; RD 0.09 (95% CI 0.01 to 0.17); NNTB 11 (95% CI 6 to 100); 1092 participants, six studies).
- More participants withdrew from the studies due to adverse events with cannabis-based medicines (10% of participants) than with placebo (5% of participants) (RD 0.04 (95% CI 0.02 to 0.07); NNTH 25 (95% CI 16 to 50); 1848 participants, 13 studies, moderate-quality evidence). We did not have enough evidence to determine if cannabis-based medicines increase the frequency of serious adverse events compared with placebo (RD 0.01 (95% CI -0.01 to 0.03); 1876 participants, 13 studies, low-quality evidence).

Cannabis-Based Products for Chronic Pain-Systematic Review

(Ann Intern Med. 2022;175:1143-1153)

Figure 1. High THC-to-CBD ratio: change in pain severity.



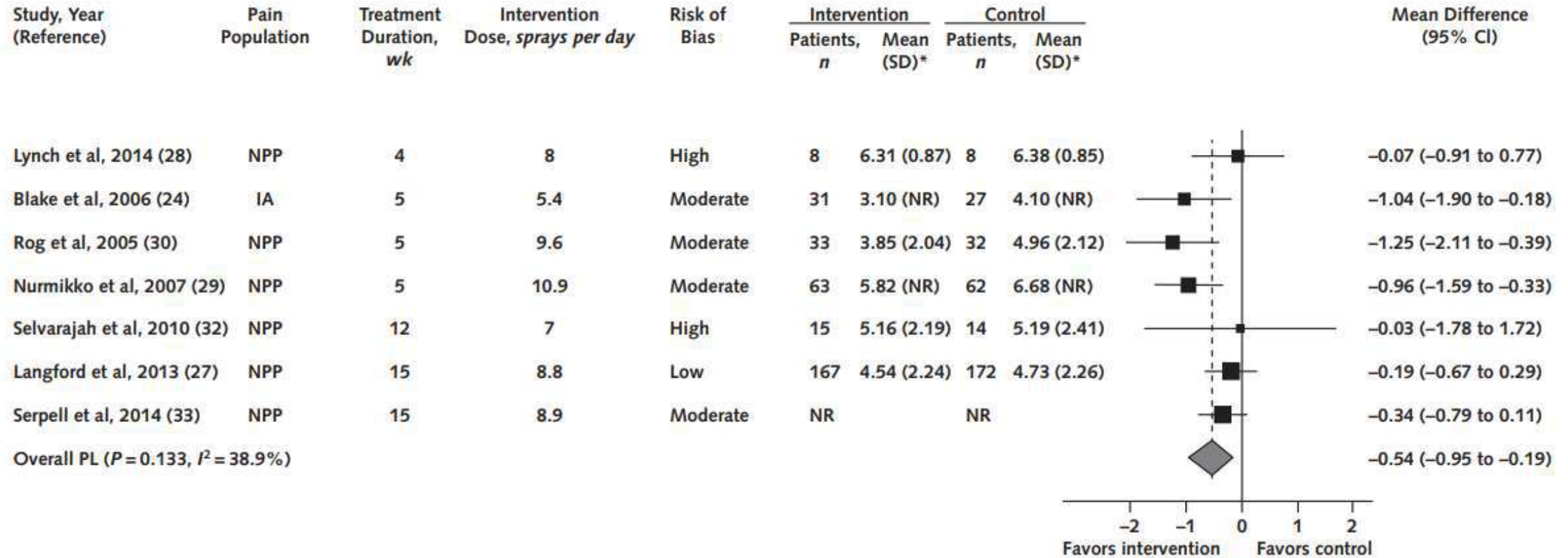
CBD = cannabidiol; EP = end point; FM = fibromyalgia; Max = maximum; NA = not applicable; NPP = neuropathic pain; PL = profile likelihood; TDD = total daily dose; T/C = THC/CBD; THC = tetrahydrocannabinol; VP = visceral pain.

* Refers to pain severity on a 0 to 10 scale at follow-up, except in the case of Zajicek and colleagues (40), which is reporting the mean change from baseline, and Wissel and colleagues (38), which is the median pain severity score at follow-up.

† Dronabinol tablet = plant-derived, purified product Namisol (Echo Pharmaceutical).

Continued... (Ann Intern Med. 2022;175:1143-1153)

Figure 2. Comparable THC-to-CBD ratio: change in pain severity.



CBD = cannabidiol; IA = inflammatory arthritis; NPP = neuropathic pain; NR = not reported; PL = profile likelihood; THC = tetrahydrocannabinol.

* Refers to pain severity at follow-up on a 0 to 10 scale.

Figure 3. Summary of evidence for benefits and harms of cannabinoids for chronic pain compared with placebo in the short term (4 weeks to <6 months).

Characteristic/ Outcome	THC-to-CBD Ratio						
		High		Comparable	Low	Unreported	Not Applicable
Source	Synthetic (<i>k</i> * = 6) (31, 34–36, 38, 41), purified (<i>k</i> = 1) (22)	Extract (<i>k</i> = 2) (25, 40)	Whole plant, 12.5% THC (<i>k</i> = 1) (47)	Extract (<i>k</i> = 7) (24, 27–30, 32, 33)	Extracted CBD (<i>k</i> = 2) (37, 39)	Unreported (patient choice) (<i>k</i> = 5) (42–46)	Extracted CBDV (<i>k</i> = 1) (26)
Route of administration	Oral	Oral	Not specified	Sublingual spray	Topical (<i>k</i> = 1) (39), oral (<i>k</i> = 1) (37)	Unreported (patient choice)	Oral
	Effect Size of Result† [SOE]‡						
Pain response	Moderate effect (<i>k</i> = 1) (35) [+]	[No evidence]	[No evidence]	Potential effect (<i>k</i> = 4) (27, 29, 32, 33) [+] [§]	[Insufficient evidence] (<i>k</i> = 1) (37)	[No evidence]	[Insufficient evidence] (<i>k</i> = 1) (26)
Pain severity	Moderate effect (<i>k</i> = 6) (22, 31, 34–36, 38) [+] [§]	[Insufficient evidence] (<i>k</i> = 2) (25, 40)	[Insufficient evidence] (<i>k</i> = 1) (47)	Small effect (<i>k</i> = 7) (24, 27–30, 32, 33) [++]	[Insufficient evidence] (<i>k</i> = 1) (39)	[Insufficient evidence] (<i>k</i> = 3) (41–43)	[Insufficient evidence] (<i>k</i> = 1) (26)
Overall function	No effect (<i>k</i> = 3) (35, 36, 38) [+] [§]	[Insufficient evidence] (<i>k</i> = 1) (25)	[No evidence]	Small effect (<i>k</i> = 6) (24, 27, 29, 30, 32, 33) [++]	[No evidence]	[No evidence]	[No evidence]
WAE	Potential effect (<i>k</i> = 4) (22, 31, 34, 36) [+] [§]	Large effect (<i>k</i> = 1) (40) [+]	[Insufficient evidence] (<i>k</i> = 1) (47)	No effect (<i>k</i> = 5) (24, 27, 29, 30, 33) [+] [§]	[No evidence]	[Insufficient evidence] (<i>k</i> = 1) (41)	[Insufficient evidence] (<i>k</i> = 1) (26)
SAE	[Insufficient evidence] (<i>k</i> = 1) (31)	[Insufficient evidence] (<i>k</i> = 1) (40)	[Insufficient evidence] (<i>k</i> = 1) (47)	No effect (<i>k</i> = 2) (24, 29) [+] [§]	[No evidence]	[Insufficient evidence] (<i>k</i> = 1) (41)	[Insufficient evidence] (<i>k</i> = 1) (26)
Dizziness	Large effect (<i>k</i> = 2) (22, 31) [++]	Large effect (<i>k</i> = 1) (40) [+] [§]	[Insufficient evidence] (<i>k</i> = 1) (47)	Large effect (<i>k</i> = 6) (24, 27–30, 33) [+] [§]	[No evidence]	[Insufficient evidence] (<i>k</i> = 1) (41)	[No evidence]
Nausea	Potential effect (<i>k</i> = 2) (22, 31) [+]	[No evidence]	[Insufficient evidence] (<i>k</i> = 1) (47)	Moderate effect (<i>k</i> = 6) (24, 27–30, 33) [+]	[No evidence]	[No evidence]	[No evidence]
Sedation	Moderate effect (<i>k</i> = 3) (22, 31, 34) [+] [§]	[No evidence]	[Insufficient evidence] (<i>k</i> = 1) (47)	Large effect (<i>k</i> = 6) (24, 27–30, 33) [+] [§]	[No evidence]	[Insufficient evidence] (<i>k</i> = 1) (41)	[No evidence]

Challenges

- Legal issues: Most countries which legalized cannabis more likely for recreational use rather than medical use (11 countries in the world + 22 states in USA).
- Indonesia in accordance to UU Narkotika No. 35 2009: psl 12 (1) Narkotika Golongan I dilarang diproduksi dan/atau digunakan dalam proses produksi, kecuali dalam jumlah yang sangat terbatas untuk kepentingan pengembangan ilmu pengetahuan dan teknologi.
- Pasal 13 (1) Lembaga ilmu pengetahuan yang berupa lembaga pendidikan dan pelatihan serta penelitian dan pengembangan yang diselenggarakan oleh pemerintah ataupun swasta dapat memperoleh, menanam, menyimpan, dan menggunakan Narkotika untuk kepentingan ilmu pengetahuan dan teknologi setelah mendapatkan izin Menteri.
- (2) Ketentuan lebih lanjut mengenai syarat dan tata cara untuk mendapatkan izin dan penggunaan Narkotika sebagaimana dimaksud pada ayat (1) diatur dengan Peraturan Menteri.

Lamp. UU Narkotika No. 35 (2009) dan Permenkes No. 5 (2023)

Daftar Narkotika Golongan I:

- 8. Tanaman ganja, semua tanaman genus *cannabis* dan semua bagian dari tanaman termasuk biji, buah, jerami, hasil olahan tanaman ganja atau bagian tanaman ganja termasuk damar ganja dan hasis.
- 9. Tetrahydrocannabinol, dan semua isomer serta semua bentuk stereo kimianya.
- 10. Delta 9 tetrahydrocannabinol, dan semua bentuk stereo kimianya

Challenges (continued)

Consistency, Standardization, PK/PD

- Good Agriculture Practice (GAP) for products from plants and Good Manufacturing Practice (GMP) for synthetic products → standardization
- Human aspects: variability response to drugs (pharmaco-genetic profiles) → individually prescribed
- More research focused on the pharmaceutical and clinical aspects of cannabis should be increased → fostering, nurturing and supporting research centres (BRIN, Universities, etc)

Conclusion

- Medical use of cannabis has been practiced since ca. 5000 years. Therefore Cannabis must be recognized as a medicinal native plant.
- Destigmatization and decriminalization of cannabis must be implemented.
- Systematic review & Meta-analysis: cannabis use for chronic pain → low-to-moderate effectiveness (alone vs placebo vs standard pain therapy) or as adjunct therapy.

References

- [Pain Pathway Flowchart: The Complete Steps \(zenflowchart.com\)](https://zenflowchart.com)
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- Tandarto K, Simatupang A, et al. The use of medical cannabis on chronic pain. A systematic review. Poster presentation presented at 8th Federation of Asian-Oceanian Neuroscience Societies (FAON) Symposium, 19-21 August 2022.

- In memory of Alm. Prof. Dr. Musri Musman, MS – Guru Besar Kimia – Universitas Syiah Kuala – Banda Aceh

Thank you!

Cannabis medis memiliki prospek cerah dan bermanfaat terhadap kesehatan. Efek negatif itu dapat diminimalkan dengan penggunaan terukur, penggunaan terstruktur dan regulasi-regulasi yang jelas.

Prof. Musri Musman - Guru Besar
Universitas Syiah Kuala Banda Aceh





PANITIA PIT DAN MUKERNAS XIII PDUI

20 - 22 OKTOBER 2023

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Website : www.pdui-pusat.org Email : pit13.pdui@gmail.com



Jakarta, 05 September 2023

No. : 038/ILPITXII-PDUI/B/IX/2023
Lampiran : Form Kesiediaan & CV
Perihal : Permohonan Menjadi Pembicara

Kepada Yth;
DR. Dr. Abraham Simatupang, Sp.FK

di-
Tempat

Dengan Hormat,
Sehubungan akan diadakannya kegiatan PIT & MUKERNAS XIII Perhimpunan Dokter Umum Indonesia dengan tema “**Optimalisasi Peran Dokter Umum Indonesia Mewujudkan Kesehatan Rakyat yang Berkualitas Melalui Penguatan Kompetensi**”, yang akan dilaksanakan pada:

Hari/Tanggal : Jumat – Minggu / 20 - 22 Oktober 2023
Waktu : 07.00 – 17.00 WIB (selesai)
Tempat : Ballroom Hotel Sheraton Gandaria City, Jakarta Selatan.

Kami panitia mengundang Sejawat untuk dapat menjadi salah satu **PEMBICARA** dalam kegiatan kami tersebut dengan tema dan alokasi waktu sebagai berikut :

Sesi : Satelit Simposium 13
Topik : Medical Cannabis For Chronic Pain
Hari/Tanggal : Minggu, 22 Oktober 2023
Waktu : 10.40 - 11.10 WIB (Waktu Presentasi 30 Menit)

Untuk itu kami mohon kesiediaan Sejawat untuk mengisi dan mengirimkan lembar kesiediaan yang telah kami lampirkan paling lambat **30 September 2023** disertai “*Curriculum Vitae*” terbaru melalui Ketua Panitia Ilmiah , Phone : DR. Dr. Rita Lahirin, M.Biomed (AAM), M.Gizi (0816-4802-005), atau E-mail : pit13.pdui@gmail.com

Demikian permohonan ini disampaikan dan atas perkenannya kami ucapkan terima kasih.

Panitia PIT & MUKERNAS XIII PDUI,

Ketua,

Dr. Widya Murni, MARS

Sekretaris,

Dr. Grace Lydia Siahaya, FINEM



PANITIA PIT DAN MUKERNAS XIII PDUI

20 - 22 OKTOBER 2023



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Memberikan konfirmasi

BERSEDIA

TIDAK BERSEDIA

Untuk Menjadi **PEMBICARA** Pada :

Sesi : Satelit Simposium 13
Topik : Medical Cannabis For Chronic Pain
Hari/Tanggal : Minggu, 22 Oktober 2023
Waktu : 10.40 - 11.10 WIB (Waktu Presentasi 30 Menit)

Curriculum Vitae (CV) akan dikirim ke sekretariat panitia (Email : pit13.pdui@gmail.com) pada tanggal **30 September 2023**

Saya Bersedia/Mohon untuk di ingatkan kembali melalui Email/Nomor WA : 083808725016

Demikian Surat Kesiediaan ini dibuat dengan sebenar-benarnya.

Jakarta, 9 September 2023

Dr.med., dr. Abraham Simatupang, MKes.



P ANITIA PIT DAN MUKERNAS XIII PDUI 20 - 22 OKTOBER 2023



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Pendidikan : dr. (FK UKI, 1988)
MKes. (FK UGM, 1993)
Dr.med. (Rheinische Friedrich Wilhelms Universitaet-Bonn, Germany, 1996)
Pekerjaan : Researcher, Senior lecturer
Organisasi Profesi : * Ikatan Farmakologi Indonesia (IKAFI) sebagai Wakil Ketua
* Perhimpunan Dokter Ahli Farmakologi Klinik Indonesia (Perdafki) -
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*British Pharmacological Society
*Australasian Society of Clinical & Experimental Pharmacologists and
Toxicologists (ASCEPT)
Publikasi : Terlampir

Tanda Tangan

(Dr.med., dr. Abraham Simatupang, MKes.)



SERTIFIKAT



- Seminar -

Diberikan Kepada:

DR.med., Dr. Abraham Simatupang, M.Kes.

Sebagai

PEMBICARA

**PERTEMUAN ILMIAH TAHUNAN (PIT) DAN MUSYAWARA KERJA NASIONAL (MUKERNAS) XIII
PERHIMPUNAN DOKTER UMUM INDONESIA**

**Optimalisasi Peran Dokter Umum Indonesia Mewujudkan Kesehatan Rakyat
yang Berkualitas Melalui Penguatan Kompetensi**

Hotel Sheraton Gandaria City, Jakarta Selatan

Ballroom Hotel Sheraton Gandaria City, Jakarta

20 - 22 Oktober 2023

SK PB IDI No. : 3083/PB/A.4/10/2023

Peserta 15, Pembicara 12, Moderator 4, Panitia 2

SK PB IDI No. : 3084/PB/A.4/10/2023

Peserta 15, Pembicara 12, Moderator 4, Panitia 2

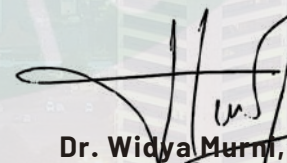
SK PB IDI No. : 3085/PB/A.4/10/2023

Peserta 15, Pembicara 12, Moderator 4, Panitia 2



Dr. Inelda Datau, MM, SAg

Presidium Pengurus Pusat PDUI



Dr. Widya Murni, MARS

Ketua Panitia PIT & MUKERNAS XIII PDUI



RUNDOWN ACARA PIT & MUKERNAS XIII PDUI 2023

Jumat, 20 Oktober 2023

1. How to Become Smart and Established Doctor to Do Investment And Business
2. Persiapan Akreditasi Llinik
3. Pembuatan Electronic Medical Record
4. Rebranding dokter Indonesia
5. Hiperbarik Sebagai Terapi Adjuvant Pada Penderita Diabetes Melitus
6. Aplikasi Stem Cell dan Produk Metabolitnya di Bidang Autoimun
7. Ai Ancaman atau Peluang didunia Kedokteran?
8. Terapi Awal Stroke (Haemoragic vs Non Haemoragic)
9. Implication the Human Genome for Healthcare
10. Kegawatan Respirasi Pada Emboli NON Kardiogenik
11. Kegawatan Respirasi Pada Emboli Kardiogenik
12. Pencegahan Stunting Saat Ibu Hamil
13. Gizi Pada Stanting
14. P3K Trauma Mekanik Pada Mata
15. P3K Terhadap Tuli Mendadak (Sudden Sensorineural Hearing Loss)
16. Tatalaksana Sindrom Koroner Akut + Study Cases
17. Potensi Pemanfaatan Secretome untuk Nyeri Sendi Lutut
18. Update TB dan TEHNIK PENGAMBILAN DAHAK
19. Positioning PDUI Pasca Omnibuslaw

Sabtu, 21 Oktober 2023

1. Strategi Penyelesaian Tuntutan Pasien atas Dugaan Malpraktek
2. Pengaruh Undang - Undang Omnibus Law Terhadap Praktek Dokter
3. A New Era with Lemborexant as Non-Psychotropic Drug for Anti-Insomnia Treatment
4. Elobixibat: A Promising Novel Treatment to Address Unmet Needs in Chronic Constipation
5. Closing the Gap of Unmet Needs in Inflammatory Pain Management
6. Bagaimana menjadikan dokter sebagai content creator yg baik?
7. Manfaat sari kunyit bagi kesehatan
8. Improvement of D-Dimer, CRP, SGOT, and SGPT in COVID-19 with Oral Cyclus Probiotic and Nasopharynx Spray
9. How To Increase Optimum Healthy Life Post Pandemi
10. Glutathione as Systemic Skin Lightening Peptide
11. Effectif Occupational Health Care for Doctors
12. STEVEN JHONSON SYNDROME DAN TEN (+Study Case)
13. ANC dan USG Kehamilan

Minggu, 22 Oktober 2023

1. Kebugaran untuk Dokter Umum
2. Bagaimana Menghitung Pajak Klinik yang Benar ?
3. Doctor & Social Entrepreneurship
4. Kepemimpinan Dokter Umum di RSU / Yankes
5. Program Kompetensi bagi Dokter Umum
6. Medical Cannabis for Chronic Pain
7. Testosterone Replacement Therapy for Metabolic Syndrome
8. Efek Vaksin pada penderita SLE
9. How to Prescribe Blood Transfusion to Blood Bank ?
10. Emergency pada tindakan transfusi darah
11. Sex Semasa Kehamilan
12. Hormon and Sex Drive in Women
13. Update Management of Acne and PCOS
14. The Current Treatment of Skin Aging
15. Dementia vs Alzheimer
16. Functional Medicine Operating System for the Advancement of General Practitioner Services in Indonesia
17. Accupuncture Treatment For Infertility
18. Gut Microbiota Pada Penderita DM type 2
19. Diet Termudah untuk Obesitas
20. Flight Aging, Living Longer with Intermitten Fasting
21. How to Improve Immune System Dysfunction
22. Ozone For Chronic Degenerative Supportive Treatment
23. A to Z management in acute stroke (Pre Hospital, Ambulance, Emergency room, High care unit room, Rehabilitation, Neurorestorasi)
24. Wound Care
25. Kegawatdaruratan Reaksi Anafilaksis Pada Anak (+ Study Case)



Universitas Kristen Indonesia Fakultas Kedokteran

SURAT TUGAS

Nomor: 1315.A/UKI.F5.D/SDM.01.01/2023

Dalam rangka pelaksanaan Satelit Simposium 13 dalam Pertemuan Ilmiah Tahunan dan MUKERNAS PDUI XIII yang dilaksanakan pada tanggal 20-23 Oktober 2023, dengan ini Dekan Fakultas Kedokteran Universitas Kristen Indonesia menugaskan:

Dr. med. dr. Abraham Simatupang, M.Kes

dalam kegiatan tersebut diatas.

Demikian surat tugas ini diberikan kepada yang bersangkutan agar dilaksanakan dengan sebaik-baiknya.

Jakarta, 17 Oktober 2023
Dekan Fakultas Kedokteran,



Dr. dr. Robert Sinurat, Sp.BS(K)

Tembusan :

1. Wakil Dekan II Bidang Administrasi Keuangan, SDM, dan Sarana Prasarana