



Center for Medicinal Cannabis Research

UC SAN DIEGO



Established in **2000**, the Center for Medicinal Cannabis Research (CMCR) has been at the forefront of advancing **science** and **policy** relating to the potential clinical benefits, and limitations, of **cannabis and cannabinoids as medicine**

Director: Igor Grant, MD

Co-Directors: J. Hampton Atkinson, MD;
Thomas Marcotte, PhD

A Cornerstone of Cannabis Research

- **Longest-running** clinical cannabis research center in the United States (Est. in 2000 via California Senate Bill 847)
- Extensive and adaptive **cannabis research portfolio**
- Rich **biospecimen and data repository** enabling cross-study and future scientific investigations
- Investigators with **cannabis/cannabinoid research expertise**, and integration with the larger **UC San Diego** research and clinical resource

Funding

CMCR funding comes from a variety of sources (National Institutes of Health, State of California, Foundation support)

Policy Involvement

Advice to policy-makers at all levels:

- **International** (e.g., Canada, Mexico, Thailand, Australia)
- **Federal/National** (e.g., FDA hearing on CBD, House Veterans Affairs Committee, advising legislators, consultation with other States)
- **State** (e.g., Blue Ribbon Commission on Marijuana Policy, Medical Board of California, Veterinary Board, California Highway Patrol, Office on Traffic Safety, Department of Cannabis Control, various Legislative offices)
- **Local** (e.g., county supervisors, mayors, councils, law enforcement)

Key Findings

Non-psychoactive cannabis components (e.g. terpenes) are promising for pain relief

High doses of THC aren't needed to see a benefit; in fact, high doses may exacerbate pain

Users self-titrate when inhaling, which may offset the effects of plant material with higher amounts of THC

Education

CMCR Symposia Series: Provides timely evidenced-based information regarding cannabis and cannabinoids. Most recent symposium focused on cannabinoids and the gut-brain axis

CMCR Graduate Scholars Program: Supports graduate students and postdoctoral scholars with an interest in cannabinoid science, and facilitates their work with CMCR investigators



Center for Medicinal Cannabis Research

UC SAN DIEGO

Studies

Randomized-controlled trials, observational and mechanistic study examples:

- **Completed:** Multiple sclerosis*, neuropathic and experimental pain (7 studies)*, driving impairment, migraine, autism, anorexia nervosa*, alcohol dependence*, metabolic syndromes*, sickle-cell*, rheumatoid arthritis*
- **Current:** Examples include: Early psychosis*, opioid abuse*, cocaine relapse* effects of CBG*, CBC*, diabetes*, inflammation, pharmacokinetics, cognition, driving safety, real-world products, anxiety*, terpenes*, orthopedic surgery infection*, maternal-child health*

**Funded by CMCR Grants Program*

CMCR Grants Program

- ✓ Using funds provided by California Proposition 64, CMCR issues funds *annually* for studies in California to evaluate the efficacy and adverse effects of cannabis and cannabinoids
- ✓ Committed \$10.375 million in funding to 22 studies since 2019

CMCR Reference Lab

Established in 2021, serves as an independent reference laboratory for validation of results from testing laboratories and development of new analytic methods.

CMCR Resources

Regulatory Expertise: Federal, State, institutional IRB (human subjects)

Clinical Research Expertise: Study design, statistical analysis, outcome selection, specimen collection, cross-study standardization enabling data aggregation

Drug Procurement: identify and negotiate with sources of cannabinoids, including for human clinical trials

Data Management and Information Systems: Web-based data management and reporting, hardware/software resources, enabling of big data analysis

Specimen Collection, Processing and Storage: Blood, oral fluid, breath, spinal fluid, urine, stool; specimen repository (24-hour temperature monitoring), custom web-based inventory system

Laboratory Medicine Resource: Mass-spectrometry and other methods to evaluate cannabis metabolites, endocannabinoids, biomarkers in human samples and tissues; capability to evaluate plant and other products

Facilities and Equipment: Negative pressure rooms (inhaled cannabis), driving simulation rooms, clinical exam rooms, cognitive testing equipment. State of the art mobile testing facility for assessing the effects of real-world cannabis products.

In-House Investigative Expertise

- ✓ Psychiatry
- ✓ Pain medicine
- ✓ Neurosciences
- ✓ Neurology
- ✓ Toxicology
- ✓ Neuropsychology
- ✓ Pharmacology
- ✓ Translational science
- ✓ Public health and safety (e.g. driving)



UC San Diego Extended Resources

*Nested within UC San Diego, one of the top research institutions in the country, CMCR has access to **additional experts and patient populations** across a broad range of disciplines*

Center for Medicinal Cannabis Research

www.cmcrc.ucsd.edu

cmcr@ucsd.edu