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 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)
- **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

- THC reduces spasticity in multiple sclerosis and neuropathic pain
- 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

**CMCR Graduate Scholars Program:** Supports graduate students and postdoctoral scholars with an interest in cannabinoid science, and facilitates their work with CMCR investigators
# Studies
Randomized-controlled trials, observational and mechanistic studies in the following areas:
- **Completed**: Multiple sclerosis*, neuropathic and experimental pain (7 studies)*, driving impairment
- **Current**: Examples include: Severe childhood autism, early psychosis*, alcohol dependence*, opioid abuse*, rheumatoid arthritis*, anorexia nervosa*, sleep disorders*, effects of CBG*, metabolic syndromes*, diabetes*, migraine, bipolar disorder, alexithymia, inflammation, pharmacokinetics, cognition, driving safety, sickle-cell*, terpenes*, glioblastoma*

*Funded by CMCR Grants Program

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# 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 $6.6 million in funding to 13 studies since 2019

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# 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; develop capability to evaluate plant and other products
- **Facilities and Equipment**: Negative pressure rooms (inhaled cannabis), driving simulation rooms, clinical exam rooms, cognitive testing equipment

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# In-House Investigative Expertise
- Psychiatry
- Pain medicine
- Neurosciences
- Neurology
- Toxicology
- Neuropsychology
- Pharmacology
- Translational science
- Public health and safety (e.g. driving)

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# CMCR Reference Lab
Established in 2021, serves as an independent reference laboratory for validation of results from licensed cannabis testing laboratories

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# 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

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# Center for Medicinal Cannabis Research
www.cmcr.ucsd.edu
cmcr@ucsd.edu