

Toward a More Translationally Relevant Preclinical Model of Cannabis Use



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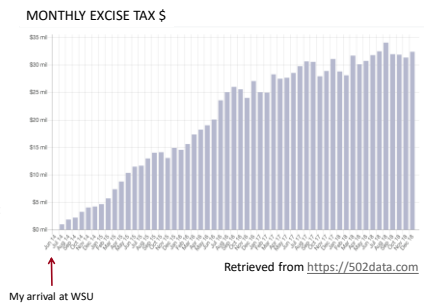
High Times In Washington State

Number of 🌿retailers = 515

Number of 🌿producers = 1425

Total 🌿sales to date = **\$4.1 B**
Total Tax Revenue = **\$742 M**

WA State Liquor & Cannabis Control Board:
"MJ sales currently exceed **\$4.5 M per day**"



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Limitations of Human Studies

- Double-blind, placebo-controlled studies are ethically impractical
- Longitudinal studies are costly and very time- and labor-intensive
- Cross-sectional and quasi-experimental studies offer little control over extraneous variables
- Difficult to untangle the effects of alcohol and other drugs, early life adversity, malnutrition, low socioeconomic status, etc.

Animal models are particularly advantageous in this respect

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The Translational Gap

- Cannabis vs. THC vs. Synthetic CB1R agonists
 - Pharmacological profile
 - Different intracellular signaling pathways
 - Entourage effects?

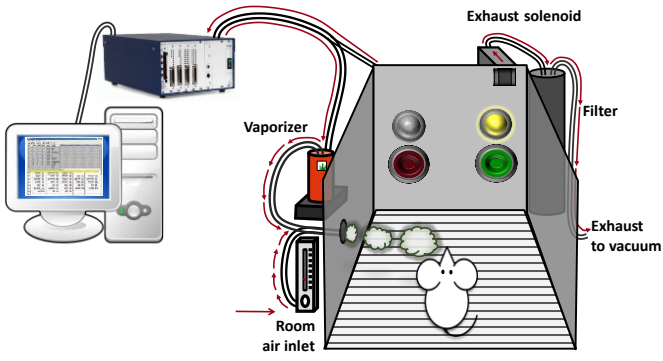


- Forced vs. Volitional Exposure



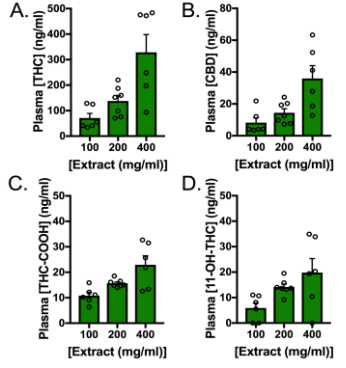
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Modeling Cannabis Use in Rodents



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Passive Administration of Cannabis Extract

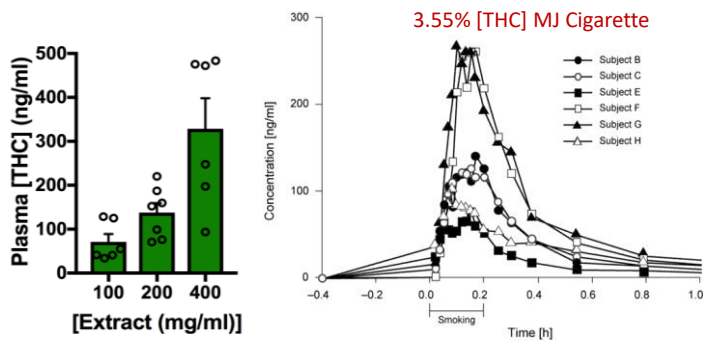


~28% THC / 1.2% CBD

1 hr session
One 5-s 'puff' every 2 min

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How Does this Compare to Humans?

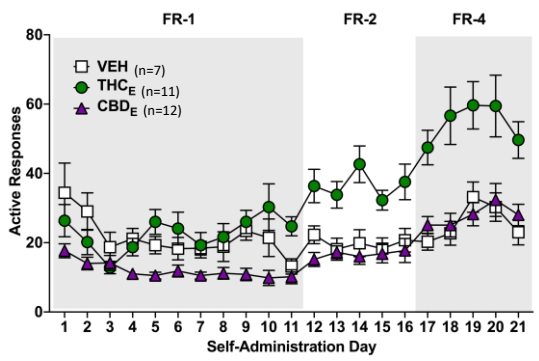


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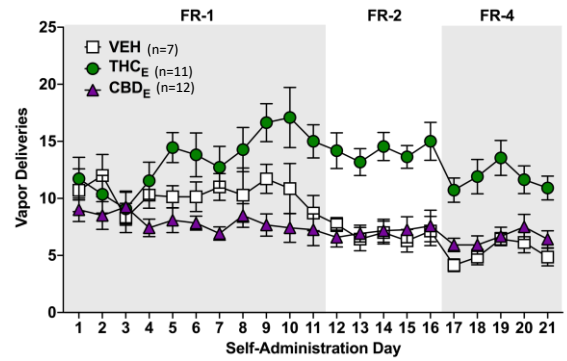
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Cannabis Vapor Self-Administration



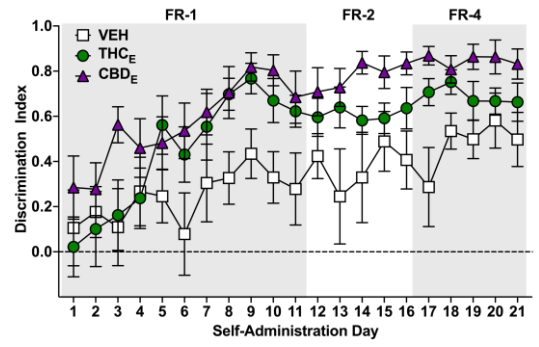
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Cannabis Vapor Self-Administration



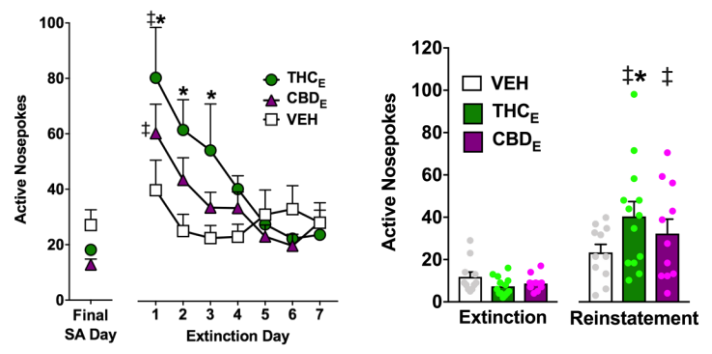
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Rats Show Strong Preference for Cannabis-Associated Nosepoke



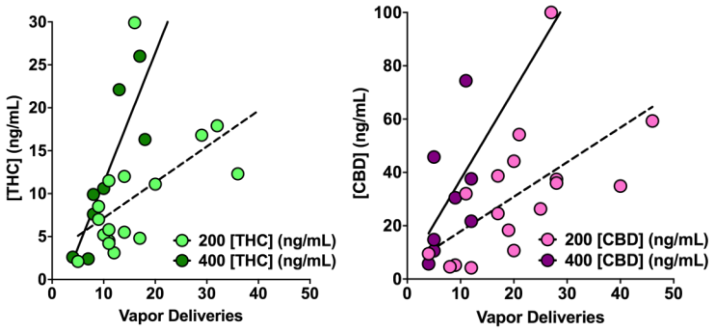
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Cannabis Vapor Supports Conditioned Drug Seeking



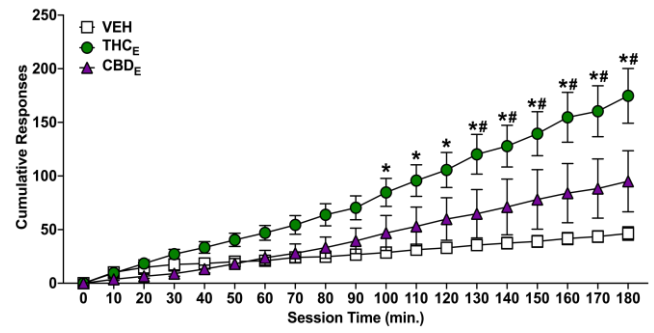
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Rates of Cannabis Vapor Self-Administration Are Physiologically Relevant



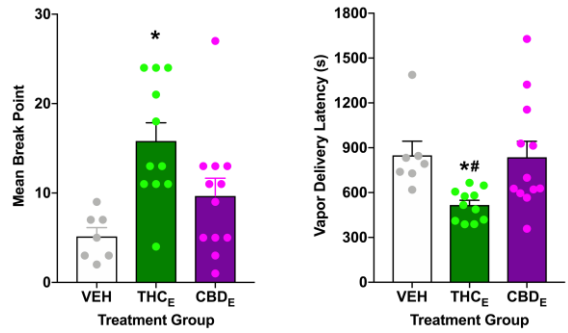
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Rats Will Work for High THC Cannabis Vapor



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Rats Will Work for High THC Cannabis Vapor



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Cannabis Use Is Evolving



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Mind The Gap!

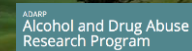


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