

Session 14

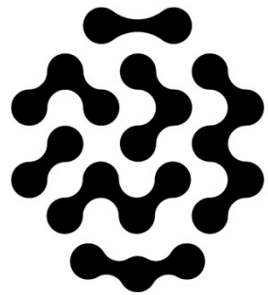
Research Presentation

Professor Ross Bathgate,
Leader Neurotherapeutics Theme, The Florey Institute
of Neuroscience and Mental Health



Professor Ross Bathgate

Leader, Neurotherapeutics Theme



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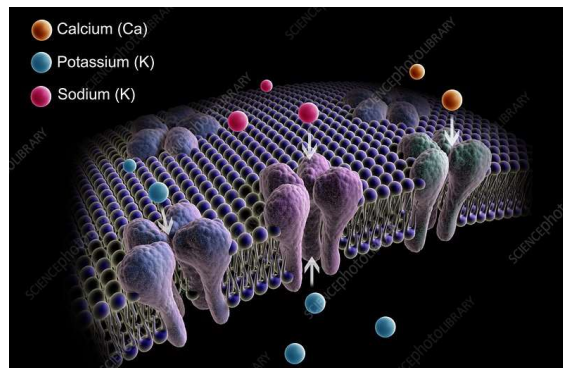


I am new to this area
and am NOT an expert
on cannabinoids



The most common targets of Cannabinoids

Ion Channels



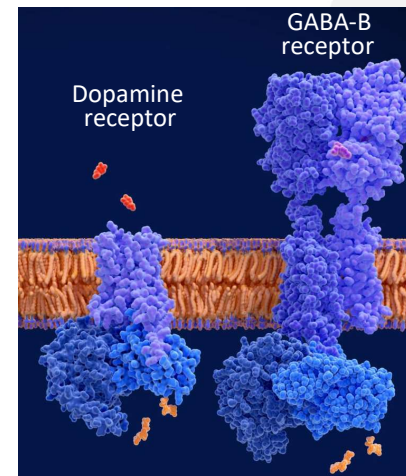
Professor Chris Reid

Leader Epilepsy Mission

Head, Neurophysiology of Excitable Networks Group

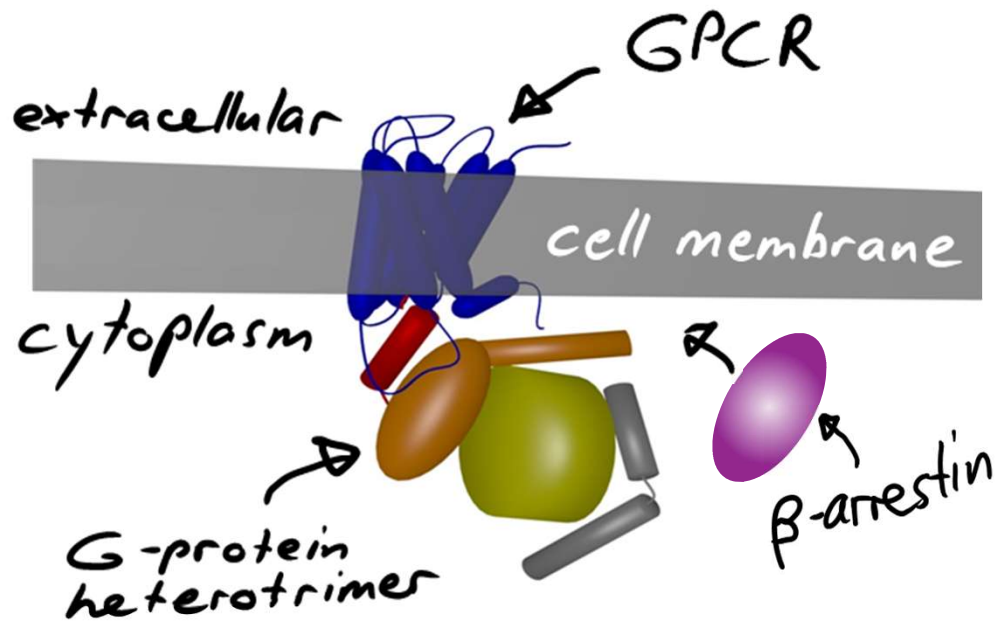
Presentation by Chase McKenzie

G Protein-Coupled receptors (GPCRs)



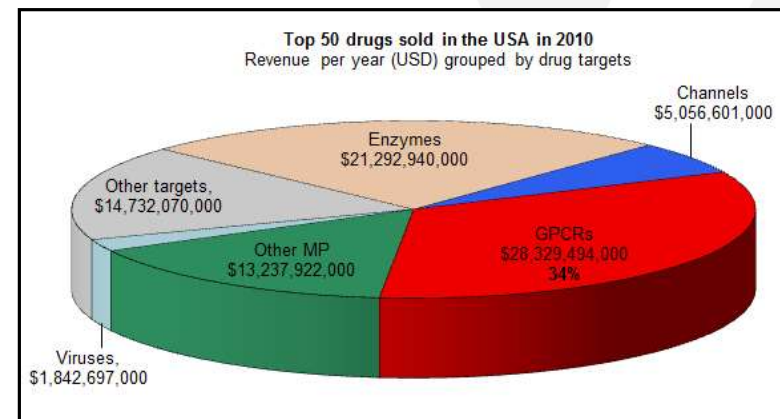
Neurotherapeutics Theme

G Protein-Coupled Receptors (GPCRs)



- Largest gene family in humans
- 4% of mammalian genes encode GPCRs
- “sense” proteins, peptides, ions, amines, nucleosides, lipids and light

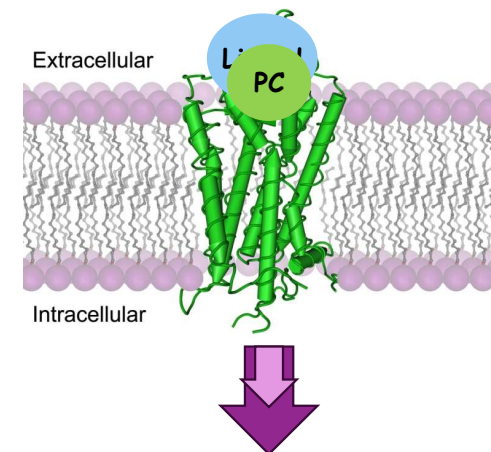
The largest drug target family



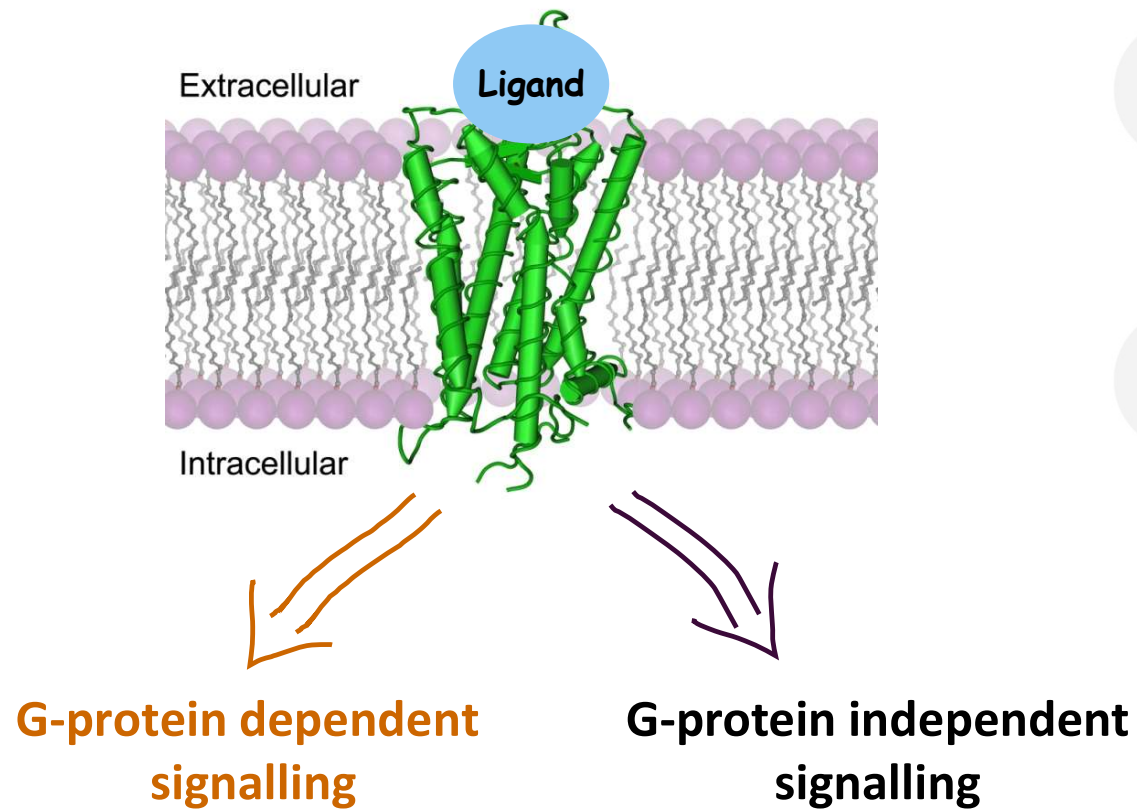
ARC MedAg Hub research

- Testing potency and efficacy of novel phytocannabinoids
- The receptors for endocannabinoids, the Cannabinoid receptors, CB1 and CB2
- Other GPCRs potentially targeted by cannabinoids, incl. GPR55

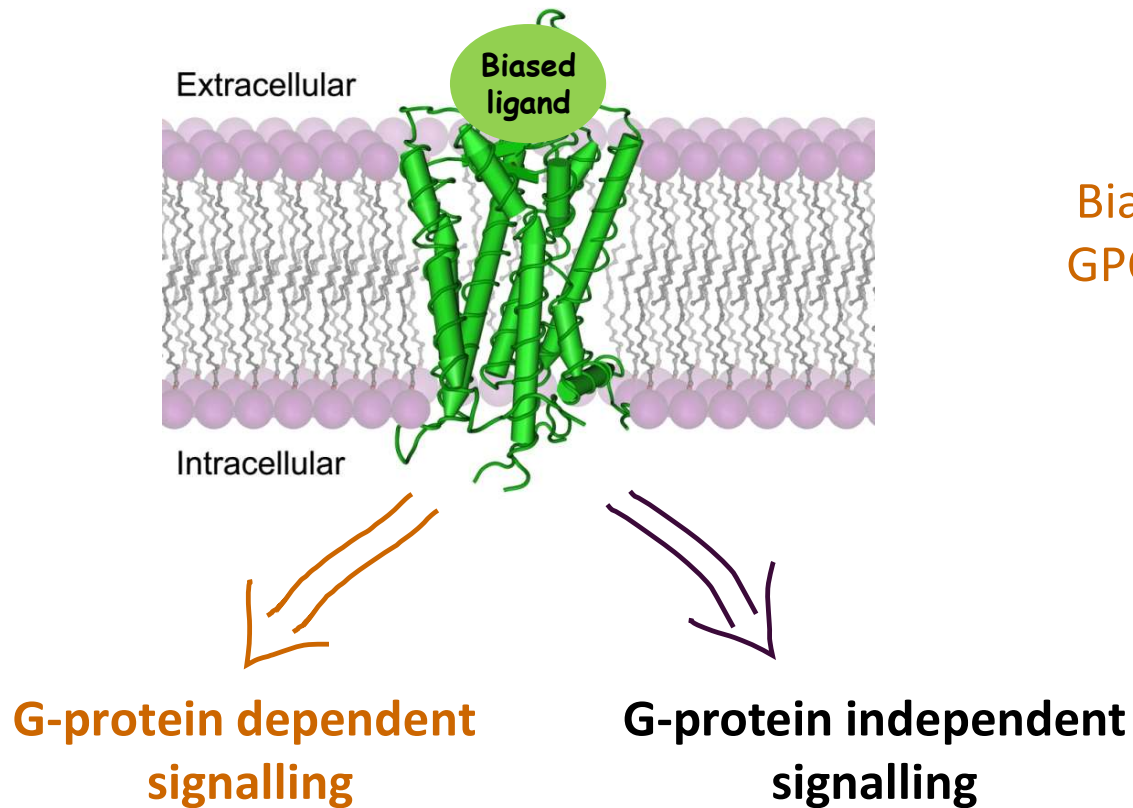
Phyto-, endo- and synthetic cannabinoids can exhibit distinct effects at cannabinoid and non-CB1/CB2 receptors, including acting as full, partial, or as antagonists



Cannabinoids can also act as biased agonists



Cannabinoids can also act as biased agonists



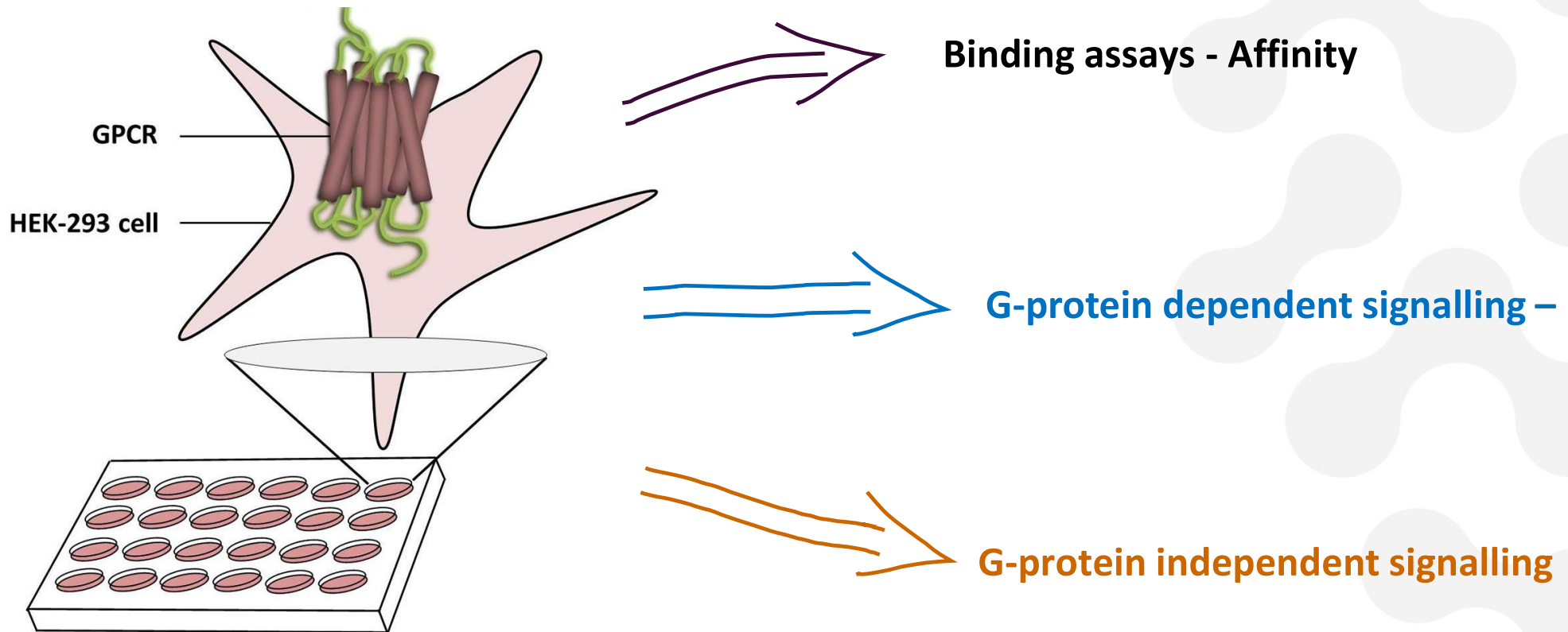
Biased signalling through GPCRs can lead to distinct biological actions

Studying the complex interactions of
Phytocannabinoids with GPCRs is essential for
understanding their potential clinical actions

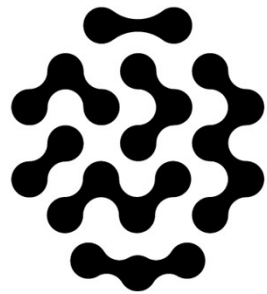


Identification of GPCR target and mode of action

Cells expressing GPCR of interest



THANKS



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