Use of ligands selective to alpha 6 subunit-containing $GABA_A$ receptors for treating opioid use disorder, optic neuropathy and cardiovascular diseases

(Below is limited to 1-page only; be careful not to disclose vital technology content. Please delete these words when the document is finished)

PI： Prof. Li-Chu Chiou
Department of Pharmacology, National Taiwan U.

An interesting **photo** related to your technology
(be careful not to disclose key technology)

Experience:

Prof. Li-Chu Chiou is a professor at National Taiwan University with extensive expertise in neuropharmacology and GABAergic signaling.

Related links:

-https://labspotlight.ntu.edu.tw/labs/14

Market Needs: There are significant unmet needs in opioid use disorder (OUD), optic neuropathy, and cardiovascular diseases. Current OUD treatments carry risks of dependence and side effects. Effective neuroprotective therapies for optic neuropathy are limited, and safe interventions for ischemia-reperfusion injury and arrhythmia remain lacking.

Our Technology: This technology involves the development of ligands selective for α6 subunit-containing $GABA_A$ receptors. These compounds act as positive allosteric modulators (PAMs), enhancing inhibitory neurotransmission without directly activating the receptor.

Strength:

1. High subtype selectivity (α6-containing $GABA_A$ receptors), reducing off-target effects
2. Allosteric modulation mechanism with improved safety profile
3. Lower risk of dependence compared to current OUD therapies

Competing Products:

1. OUD: methadone, buprenorphine, naltrexone
2. Optic neuropathy: NMDA receptor antagonists (e.g., memantine), anti-glaucoma drugs

Cardiovascular diseases: anti-arrhythmic drugs, beta-blockers

Intellectual Properties:

1. Provisional patent filed (63/806,808)
2. Strong research foundation with decades of expertise in $GABA_A$ receptor pharmacology and drug development

Contact (do not need to fill out):

Center for Industry-Academia Collaboration, NTU
Tel: 02-3366-9945, E-mail: ordiac@ntu.edu.tw