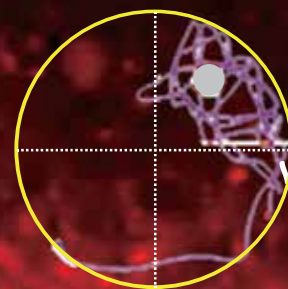


Neuroscience



ChemPartner
Dedicated to LifeScience

CNS *In Vivo* Pharmacology (~600 Studies)

Technology Platforms: Laboras, Receptor Occupancy (RO), Microdialysis, & EEG

- Laboras Vibration-sensing platform
- *Ex vivo* (radiotracer), & *in vivo* (LC-MS/MS) RO
- Monoamines, amino acids transmitters, test compound microdialysis (LC-MS/MS)
- Rodent Sleep / Wake / Seizure qEEG

Neurodegeneration

Alzheimer's Disease:

- 5XFAD Transgenic Mice
- Abeta, p-Tau Assays

Parkinson's Disease:

- Rodent 6-OHDA & MPTP
- Primate MPTP-induced

Cognition Readout:

- Morris Water Maze,
- Y-maze
- Novel Objective Recognition
- Passive Avoidance
- Contextual Fear Conditioning
- Delayed Non-Matching To Place

Pain

- Acetic Acid Writhing
- Formalin, CFA
- Hot Plate
- Tail Flick
- Chung & Bennett (CCI)
- CNS Safety, Irwin's Rotarod, sLMA

Neuropsychiatric

- Forced Swim
- Tail Suspension
- Vogel
- Elevated Plus Maze
- Ketamine- or MK-801
- hyperlocomotion
- Pre-Pulse Inhibition (PPI)

Non Human Primate Pharmacology

- CANTAB cognitive tasks
- Object Retrieval (OR) task
- Eyeblink
- Tail Flick

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Pain Model Assays:

Acute pain:

- physiological (tail flick, hindlimb withdrawal)
- inflammatory (formalin, carrageenan, post-operative),
- visceral (acetic acid induced writhing)

Chronic pain:

- Inflammatory pain (CFA, MIA),
- nerve injured pain (Chung, CCI, PNL, SNI),
- diabetic neuropathy pain (STZ),
- chemotherapeutical neuropathy pain;

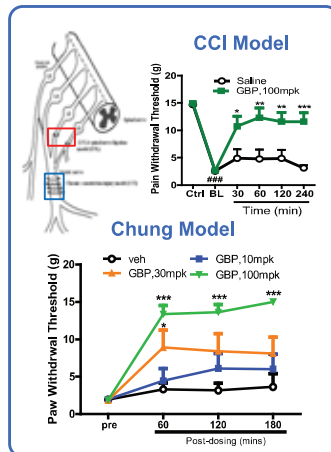
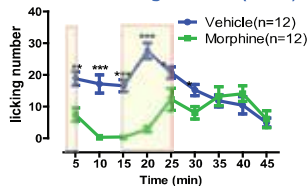
Readouts:

- Thermal: hot plate, Hargreaves, PWL, PWT
- Mechanical: von Frey hairs, Randall-Selitto
- Incapacitance Tester: Weight Bearing
- Behavioral Observation: LABORAS System
- Biomarker collections: blood, CSF, brain, spinal cord, DRG, nerve tissues

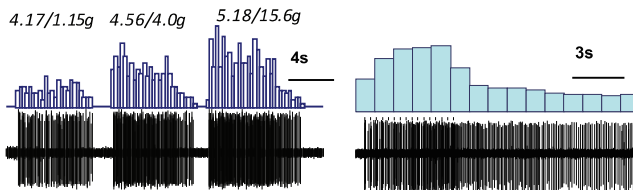
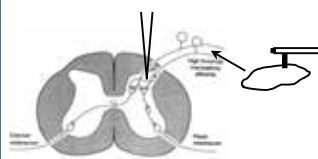
Laboras Measurement of Formalin-induced Pawlicks



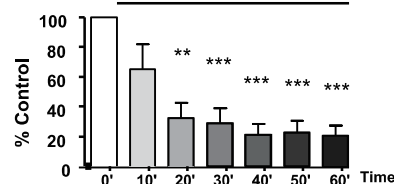
Hindlimb licking number (Total)



In vivo Dorsal Horn Neuron Recordings



Post-Gabapentin (100mg/kg)



Cognitive Test Battery For Non-Human Primate

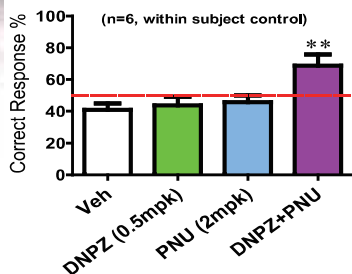
Object Retrieval



Object Retrieval

- Attention, Response Inhibition
- Go-No-Go Decision

Oral Donepezil (DNPZ) & PNU-120596(PNU) On OR Task In 9 yr old Cyno monkeys



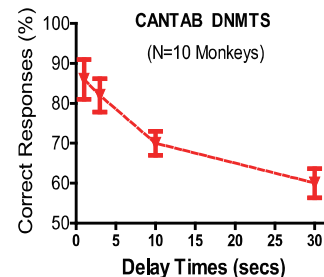
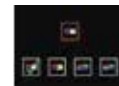
CANTAB

(Working Memory Tests)

Self-Ordered Spatial Search (SOSS)



Delayed (Non) Matching To Sample (DNMTS)

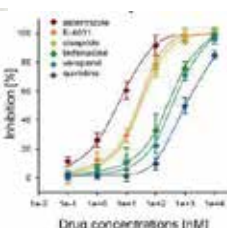
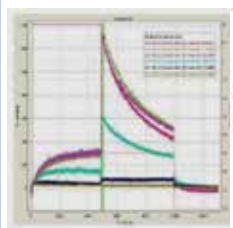


In Vitro Electrophysiology Assays ~8000 Compounds Studied

hERG from QPatch 48

Cisapride effect on hERG currents

Rank order potency of hERG blockers

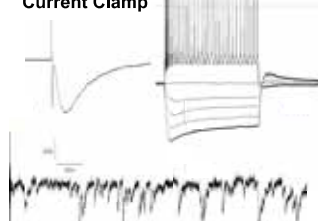


Brain Slice Synaptic Electrophysiology

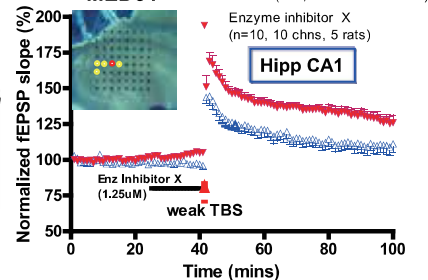
DIC-IR



Voltage Clamp Current Clamp



MED64



Ion Channels:

Voltage-gated ion channels:

- (K+) hERG, Kv3.1, Kv7/KCNQ
- (Na+) Nav1.1, 1.5, Nav1.7

Ligand-gated ion channels:

- TRPV family
 - P2X family
 - GABA_Ar family
 - iGluR (AMPA, NMDA) family
- In CHO, HEK293, cultured or dissociated hippocampal & DRG neurons