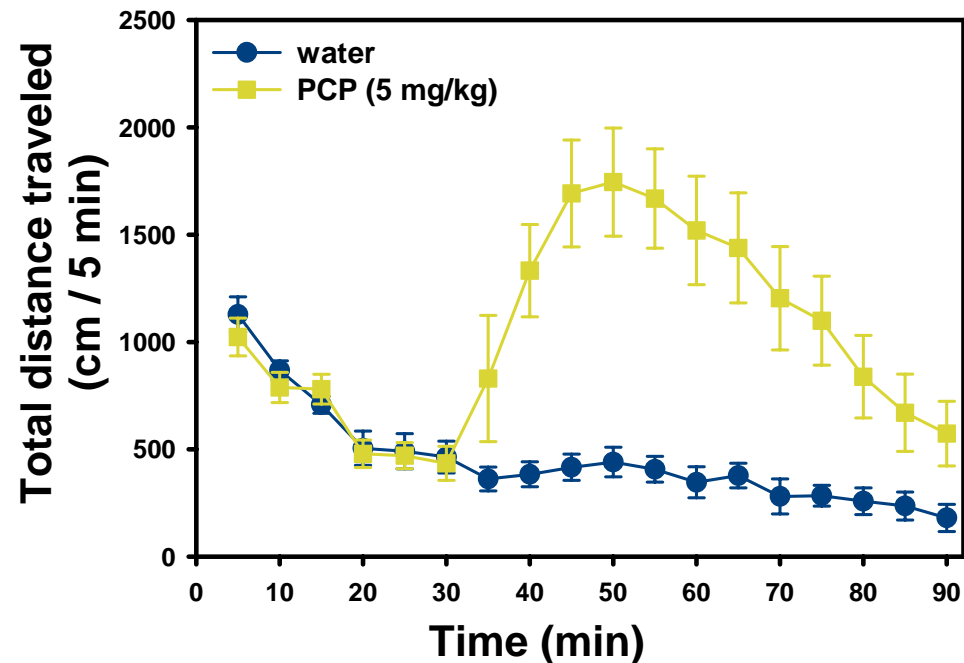


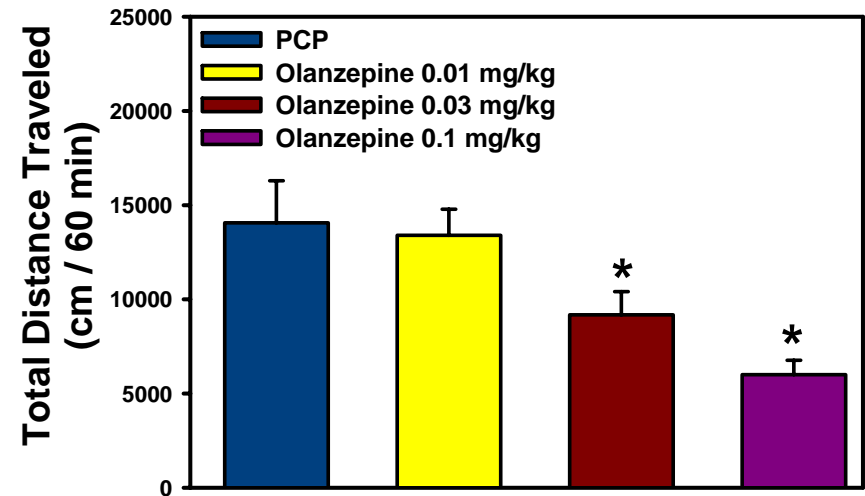
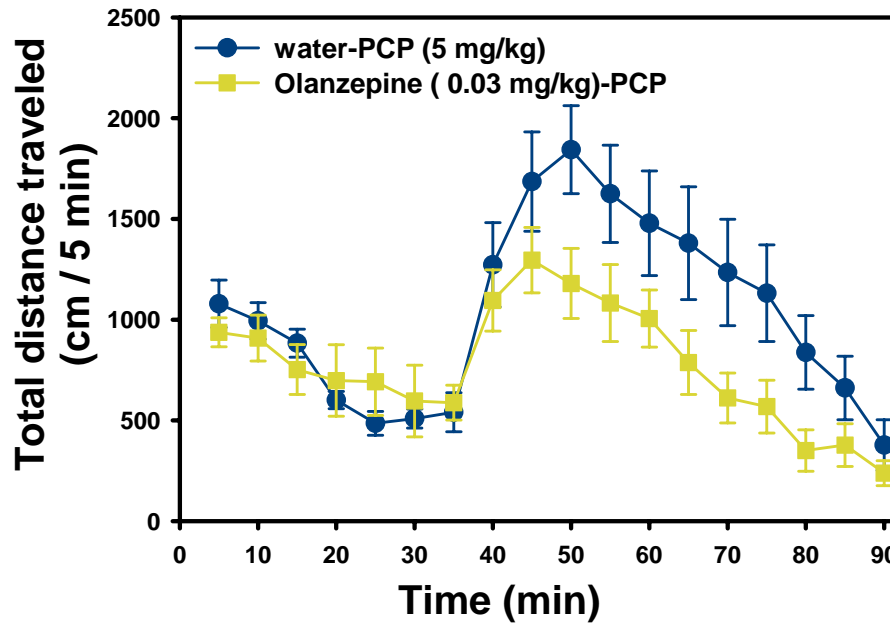
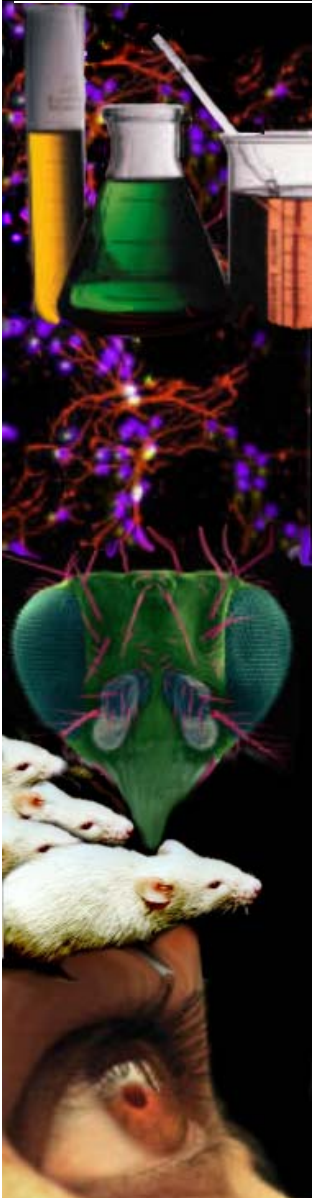
Behavior Paradigms for Psychosis and Mania

PCP increases locomotor activity of C57 mice

In humans, acute administration of PCP causes schizophrenia-like symptoms. This is manifested in rodents as an increase in locomotor activity. Antipsychotic agents attenuate PCP-induced hyperactivity in rodents.

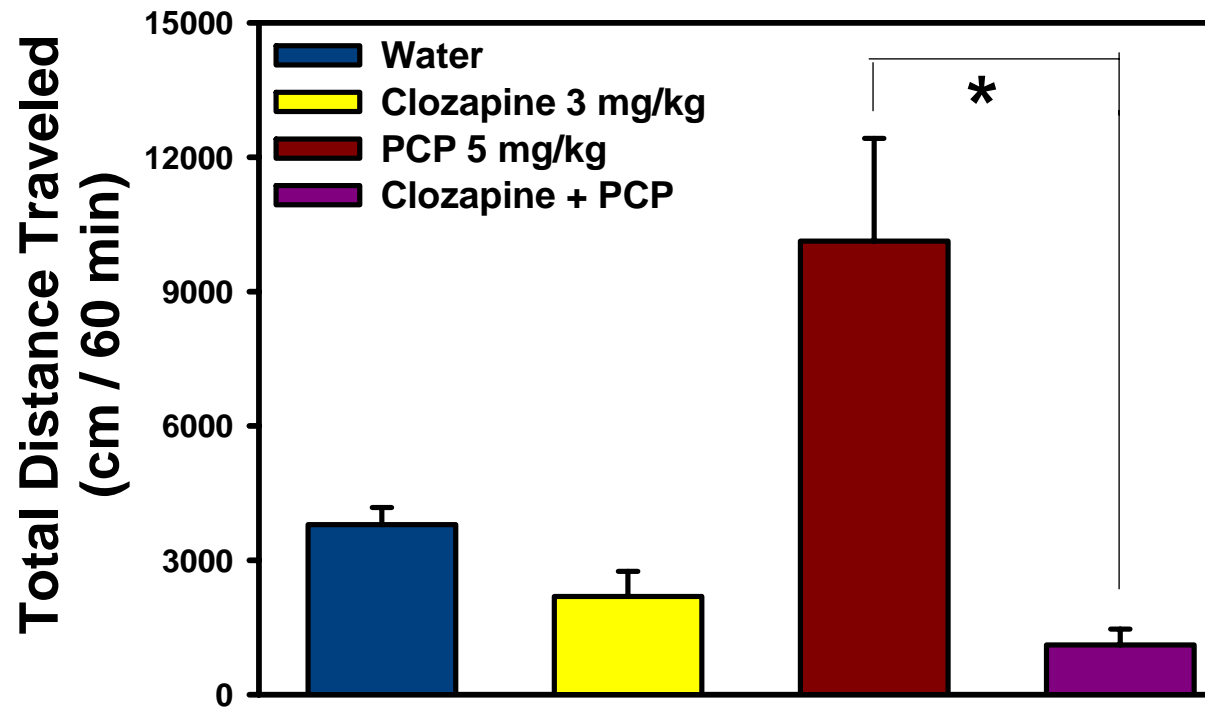
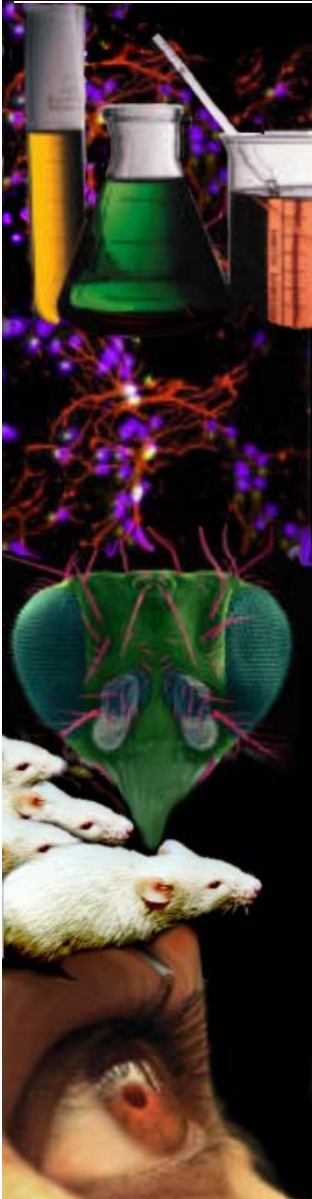


Olanzapine attenuates PCP-induced activity

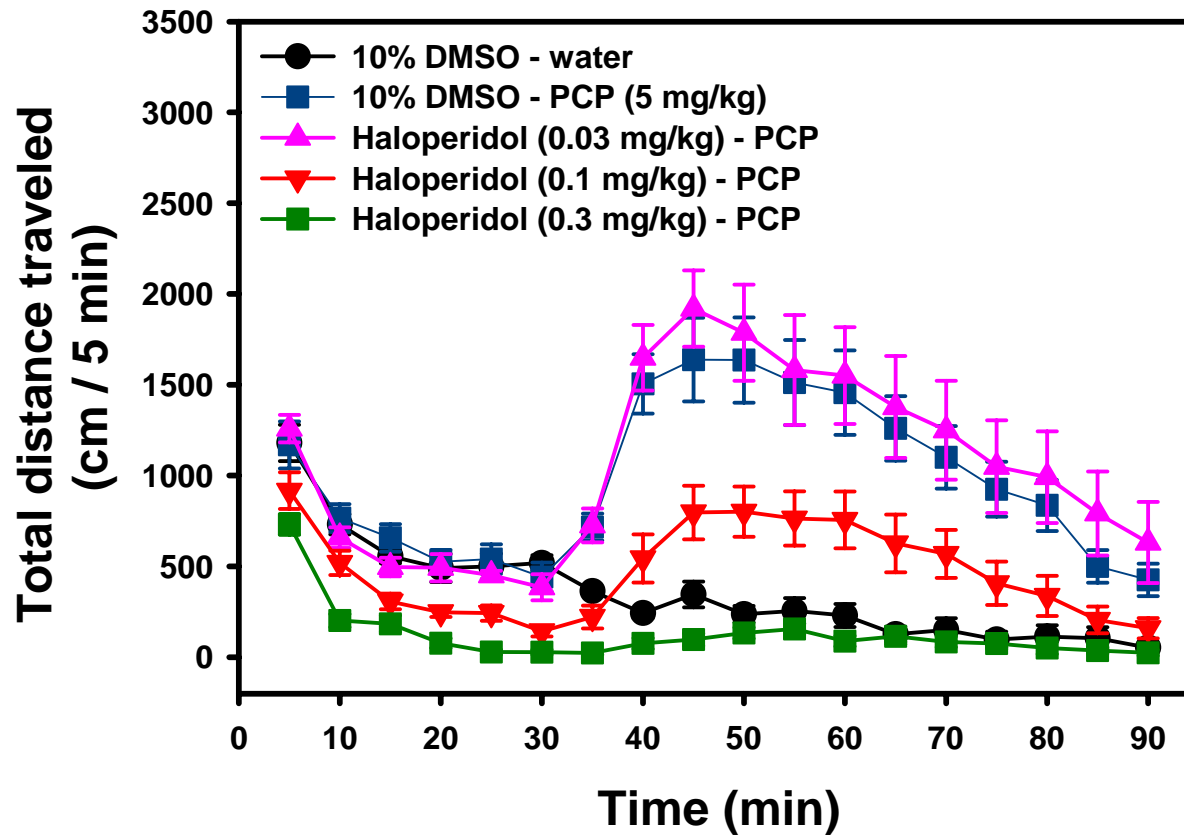
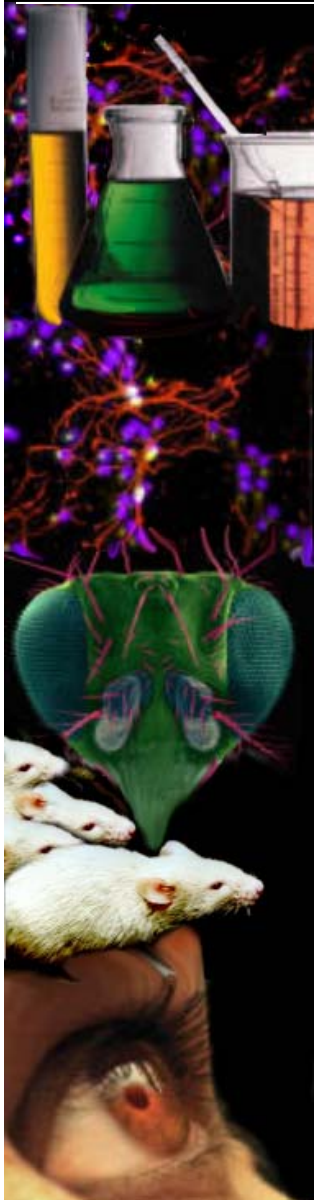


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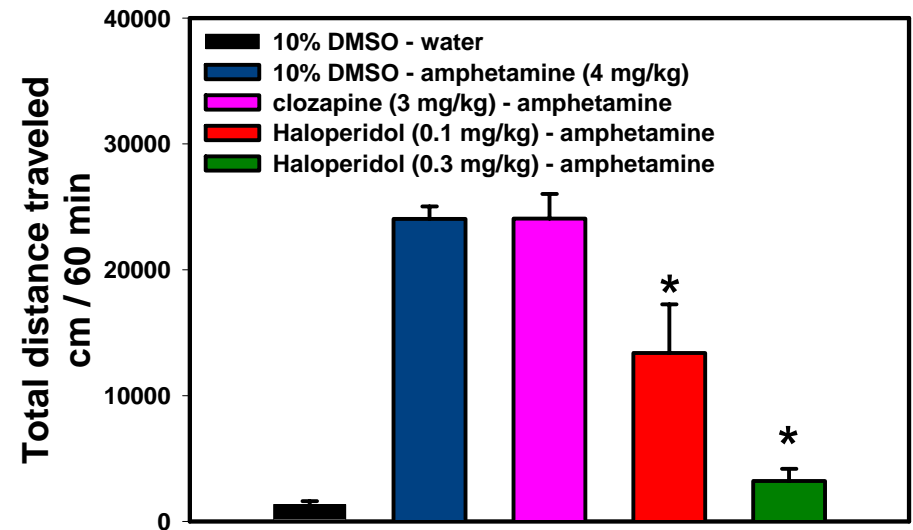
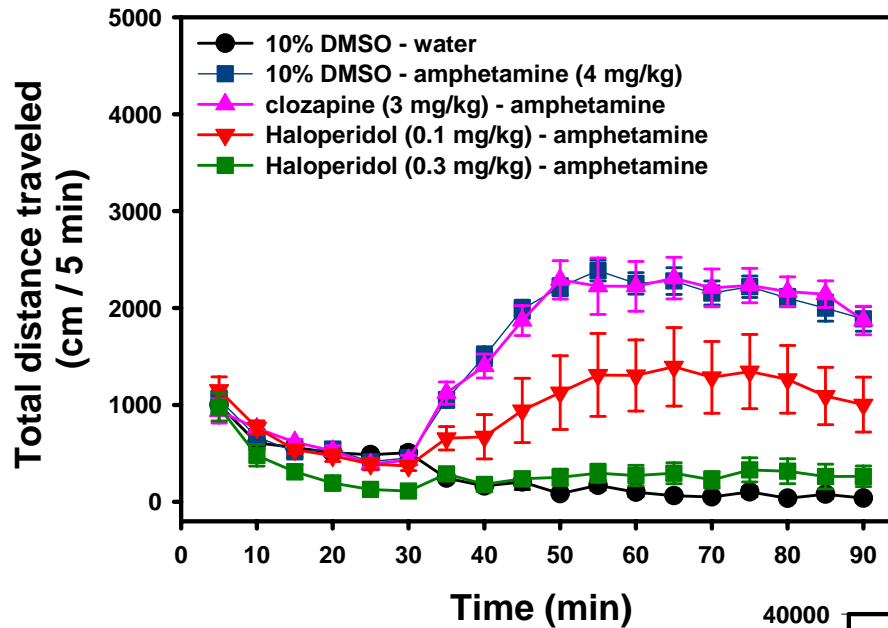
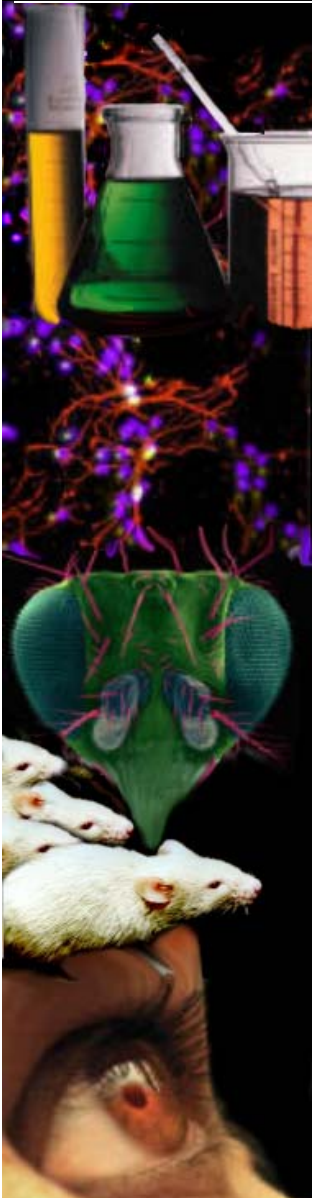
Clozapine attenuates PCP-induced activity



Non-sedative doses of haloperidol have no effect on PCP-induced activity



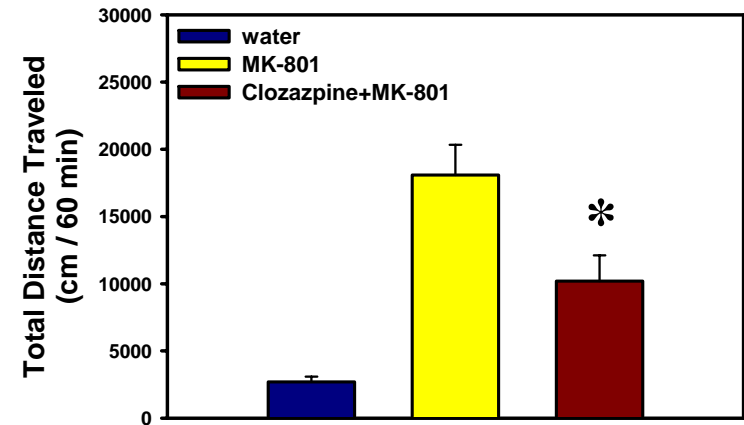
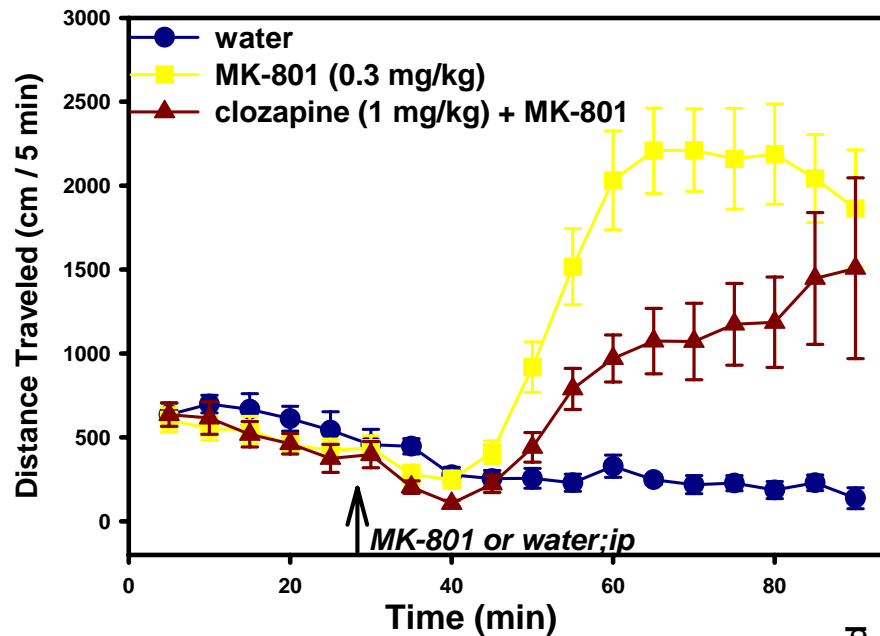
Atypical antipsychotics have no effect on amphetamine-induced activity



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MK-801 increases locomotor activity of C57 mice

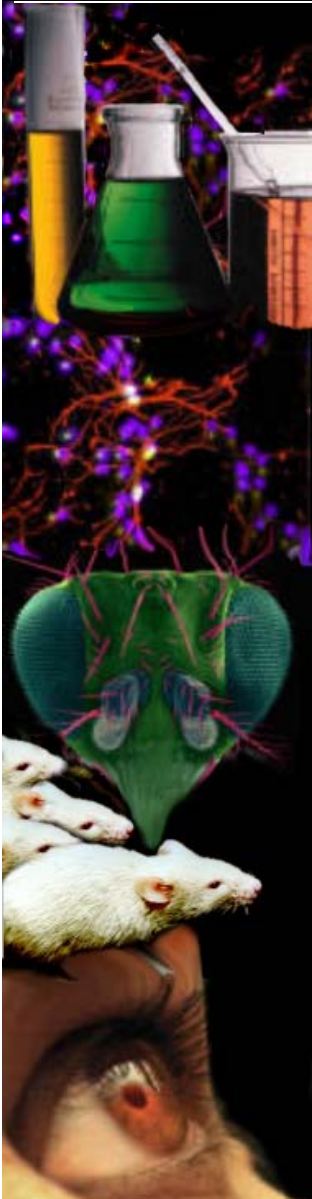
Acute administration of the NMDA receptor antagonist MK-801 causes hyperactivity in rodents. Antipsychotic agents attenuate MK-801-induced hyperactivity.



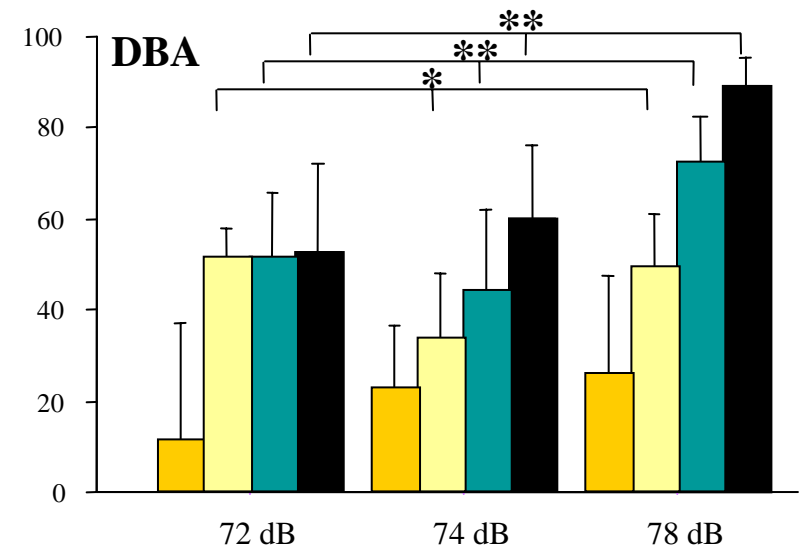
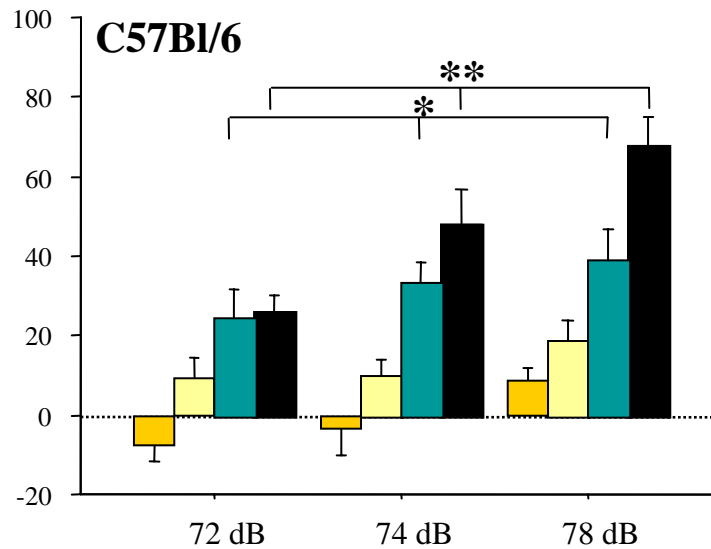
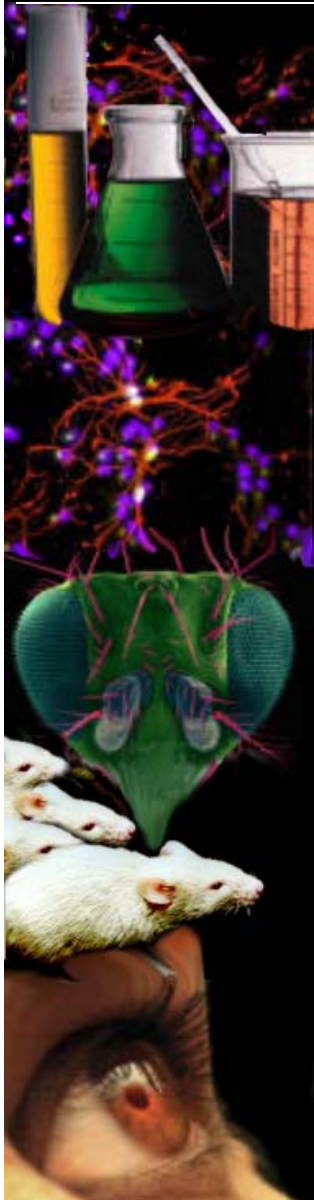
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Prepulse Inhibition of Acoustic Startle

The presentation of an acoustic prepulse stimulus will attenuate a normal acoustic startle response. This effect is known as Prepulse Inhibition of startle (PPI). In rodents, acute administration of PCP or MK-801 can disrupt PPI. Antipsychotic agents will increase the PPI response and also reverse the effects of disrupters.

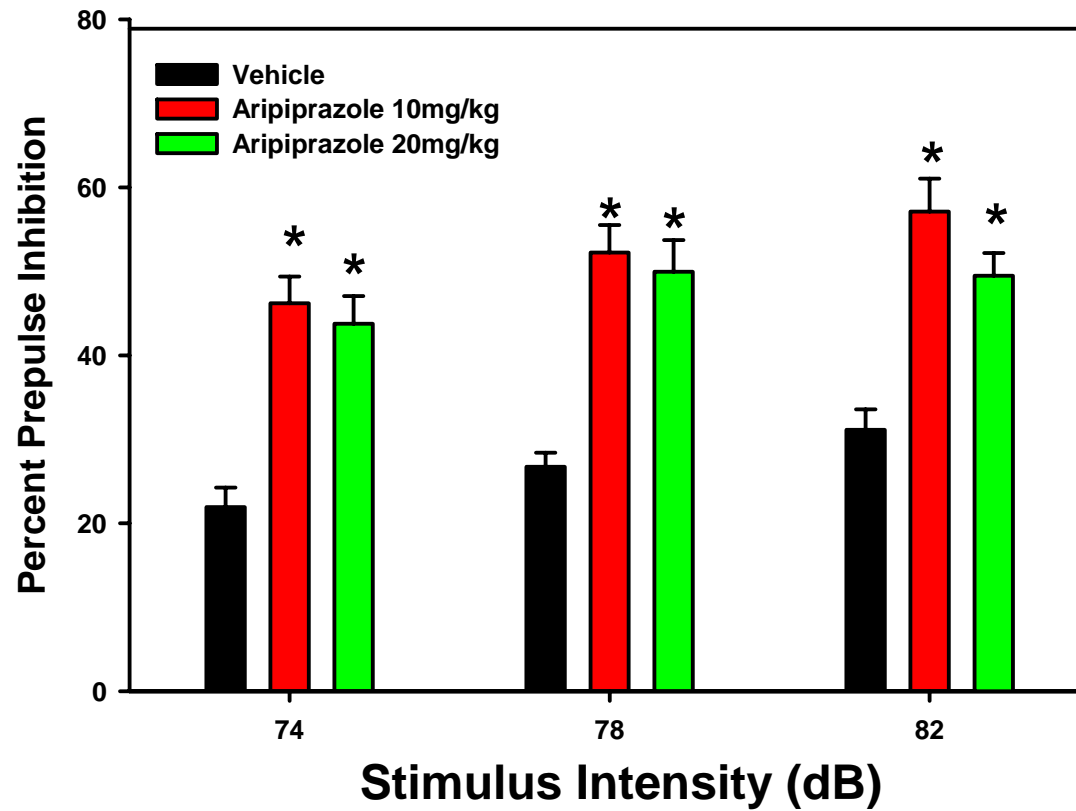
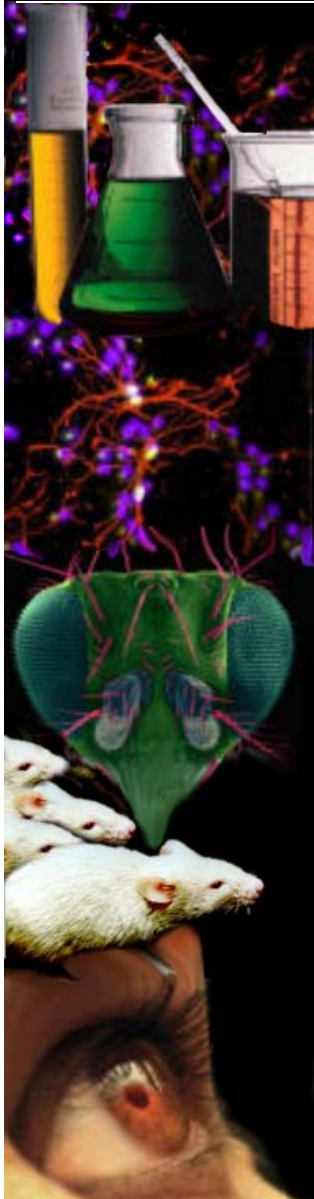


Prepulse inhibition of startle: strain effect



Clozapine
 1 mg/kg
 3 mg/kg
 9 mg/kg

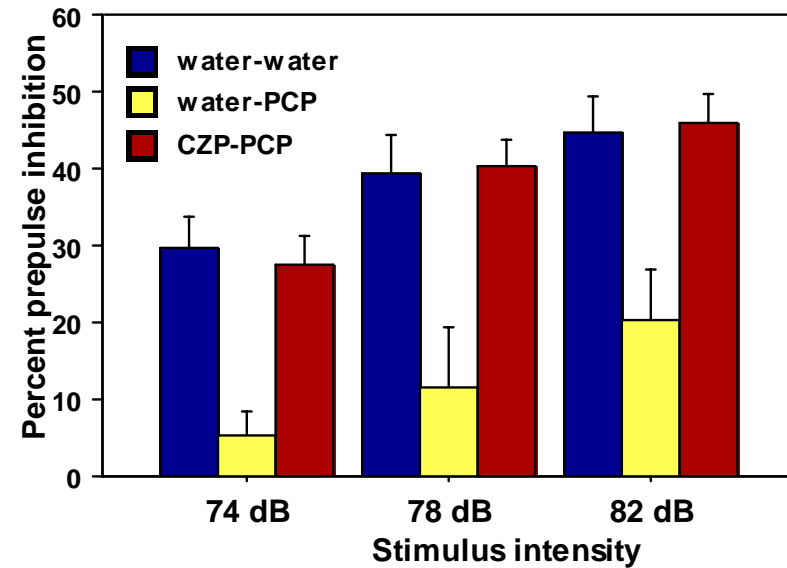
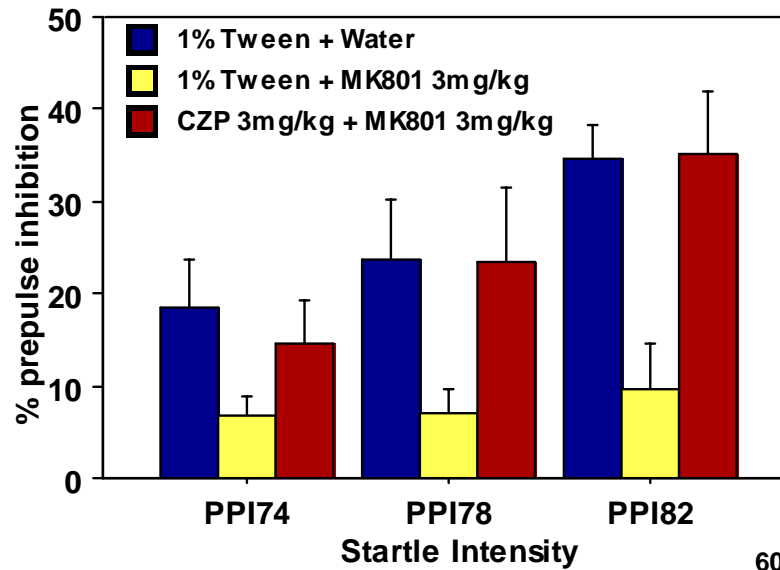
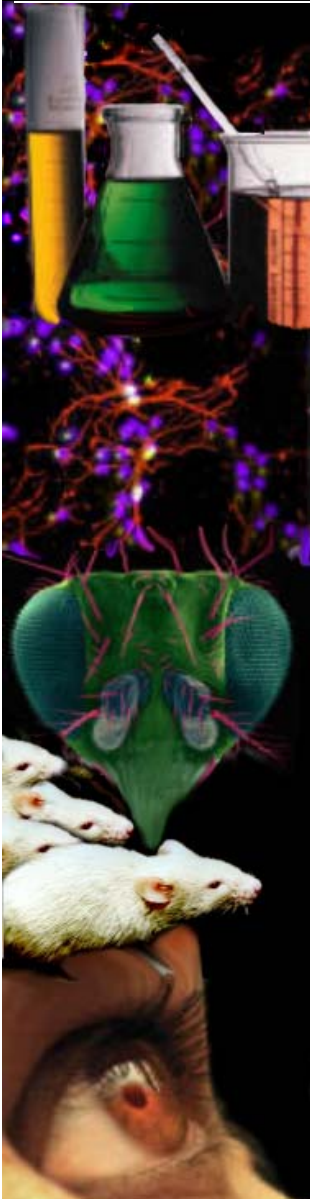
Aripiprazole increases PPI





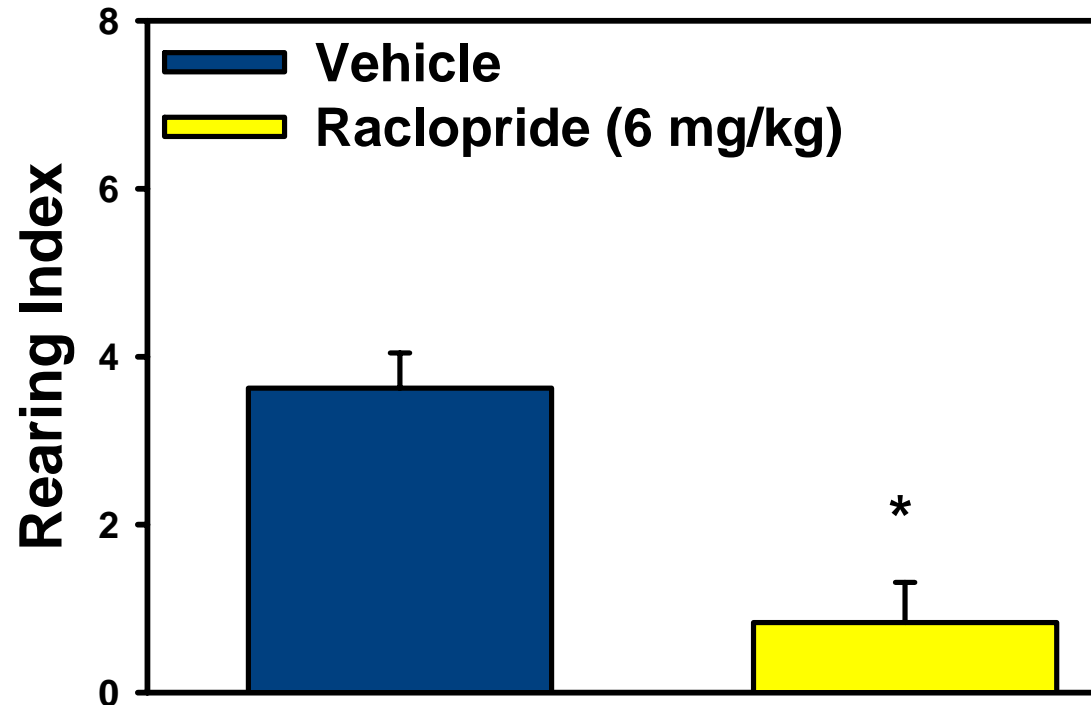
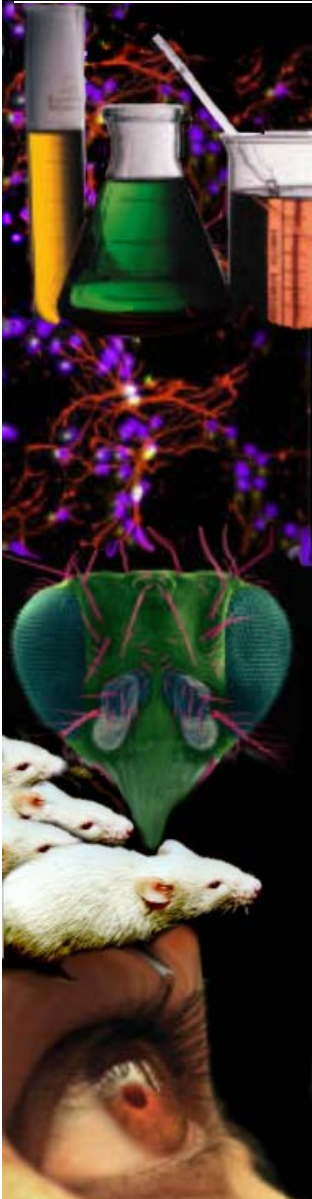
PsychoGenics

Clozapine reverses PCP and MK-801-induced disruption in PPI

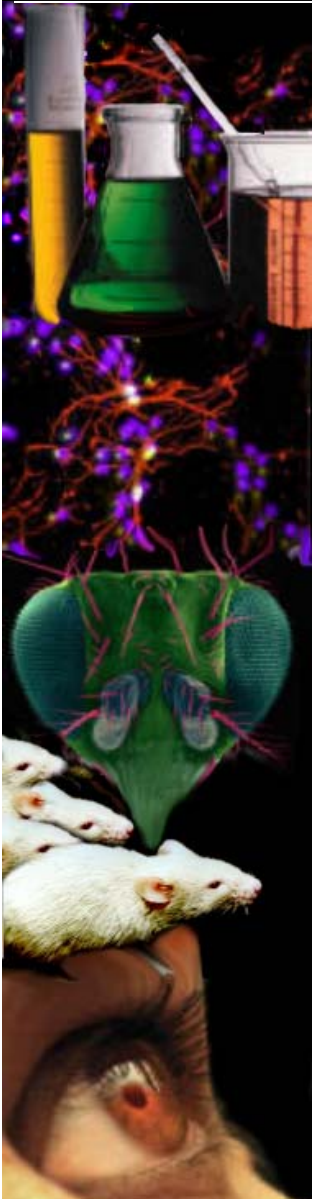


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Apomorphine-induced rearing and climbing in C3H mice

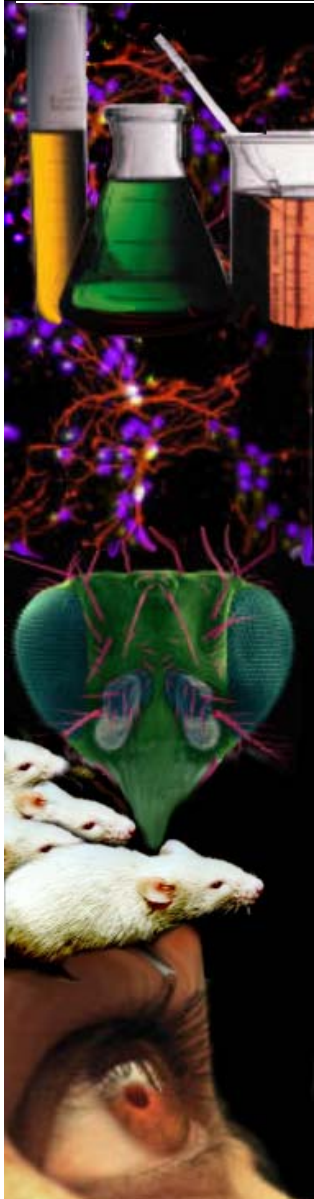


Apomorphine: 10 mg/kg



Mouse Models for Mania

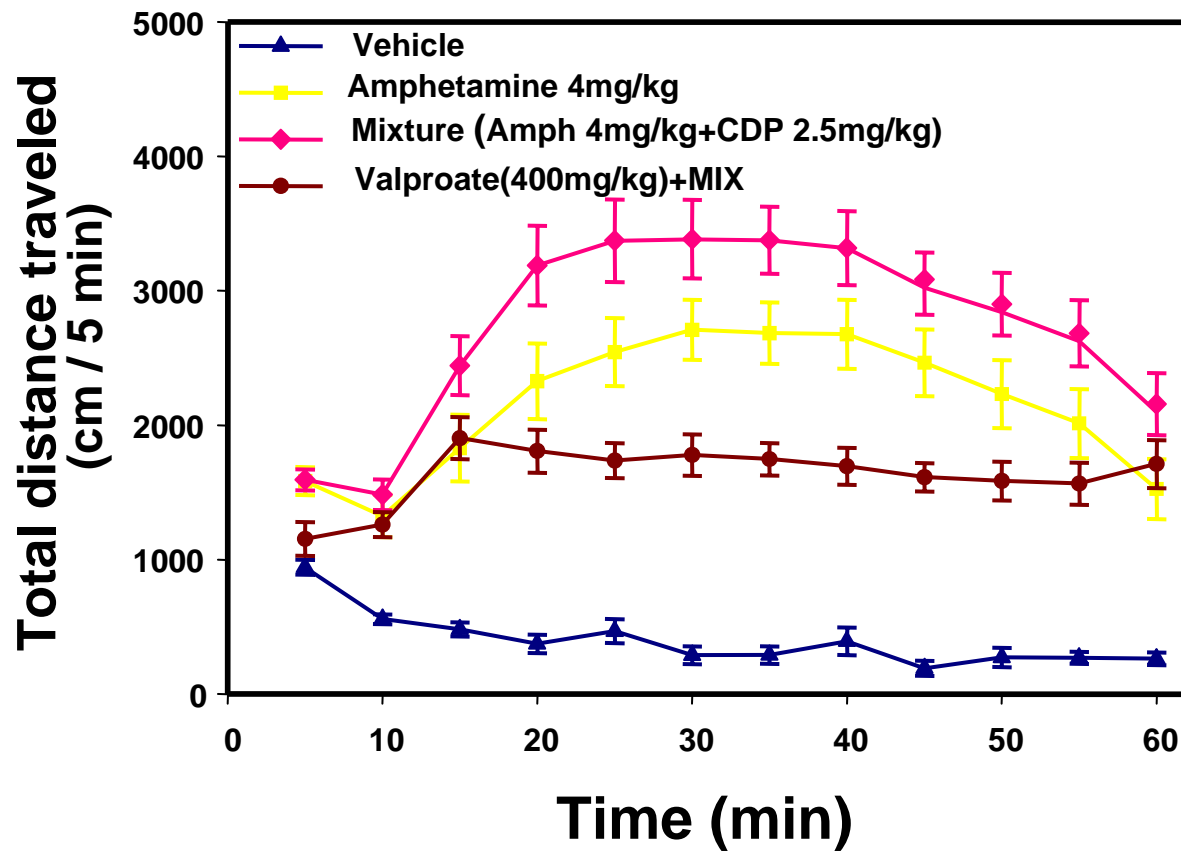
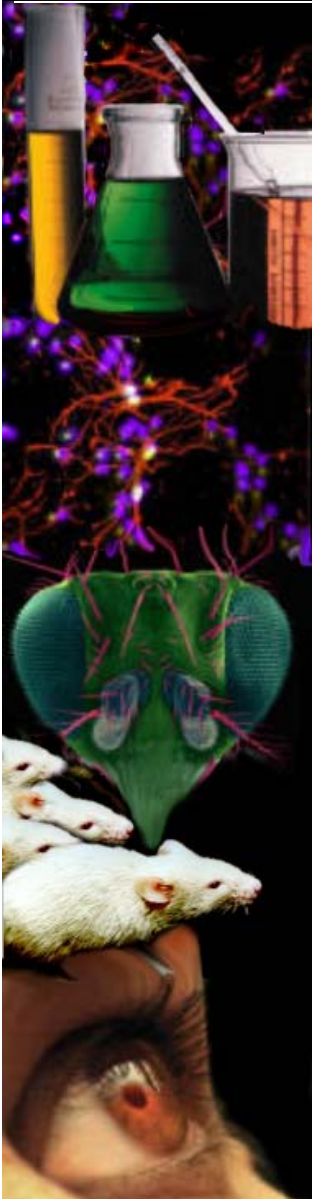
Amphetamine / CDP Induced Hyperactivity



- **Bipolar disorder can be accompanied by episodes of mania and depression and in severe cases psychosis.**
- **Animal models for bipolar disorder/mania are scarce. Hyperactivity-based studies are often used to mimic the mania/psychosis associated with bipolar.**
- **Mice are injected with a mixture containing amphetamine and chlordiazepoxide and locomotor activity is measured in an open field environment.**
- **Lithium and Valproate, anticonvulsant agents used in treating bipolar in humans, can selectively attenuate amphetamine/CDP-induced hyperactivity in mice without affecting locomotor activity induced by amphetamine alone.**

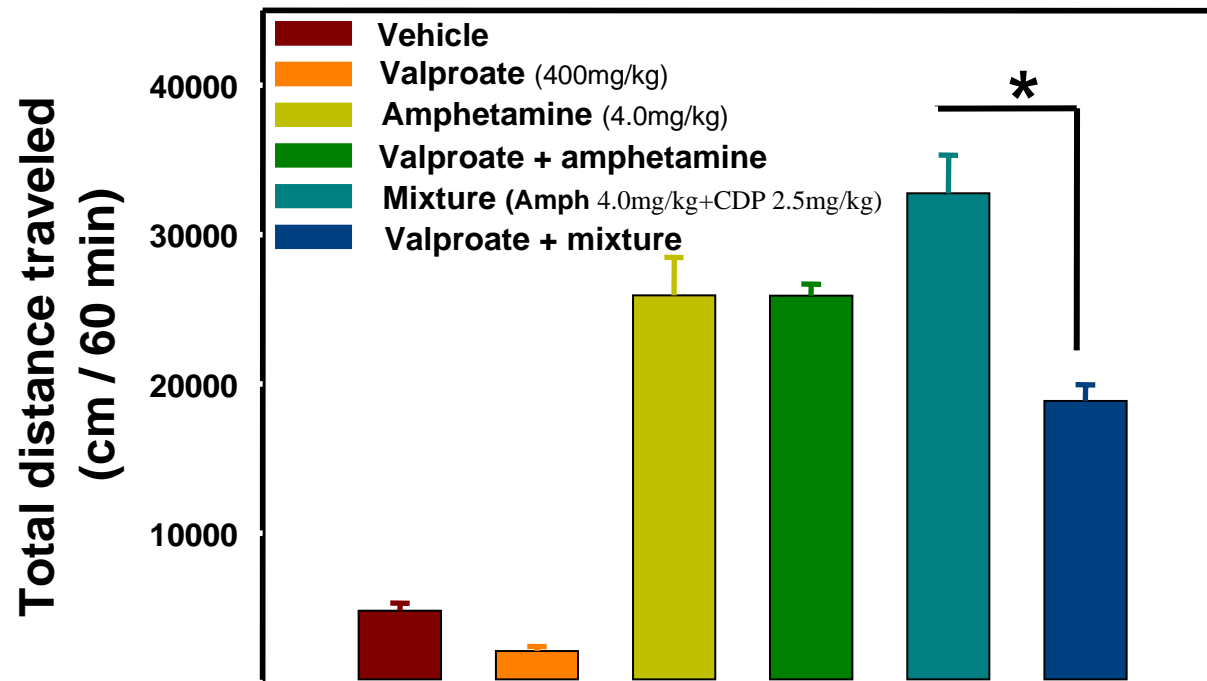
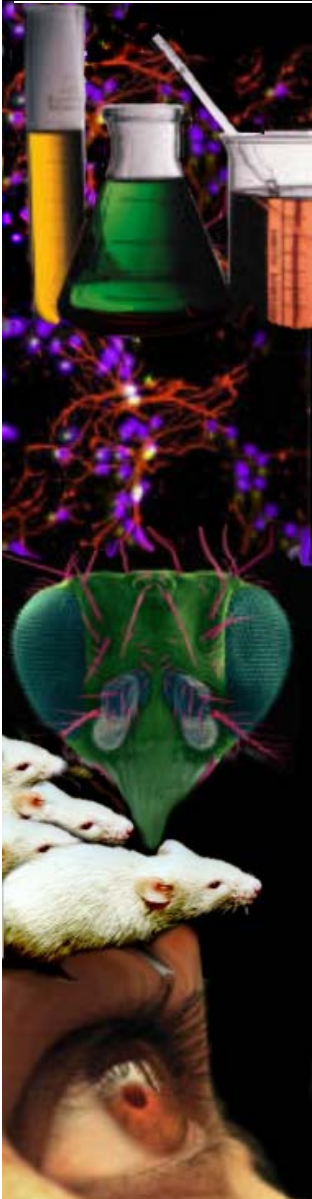
Amphetamine / CDP Induced Hyperactivity

Effect of valproate



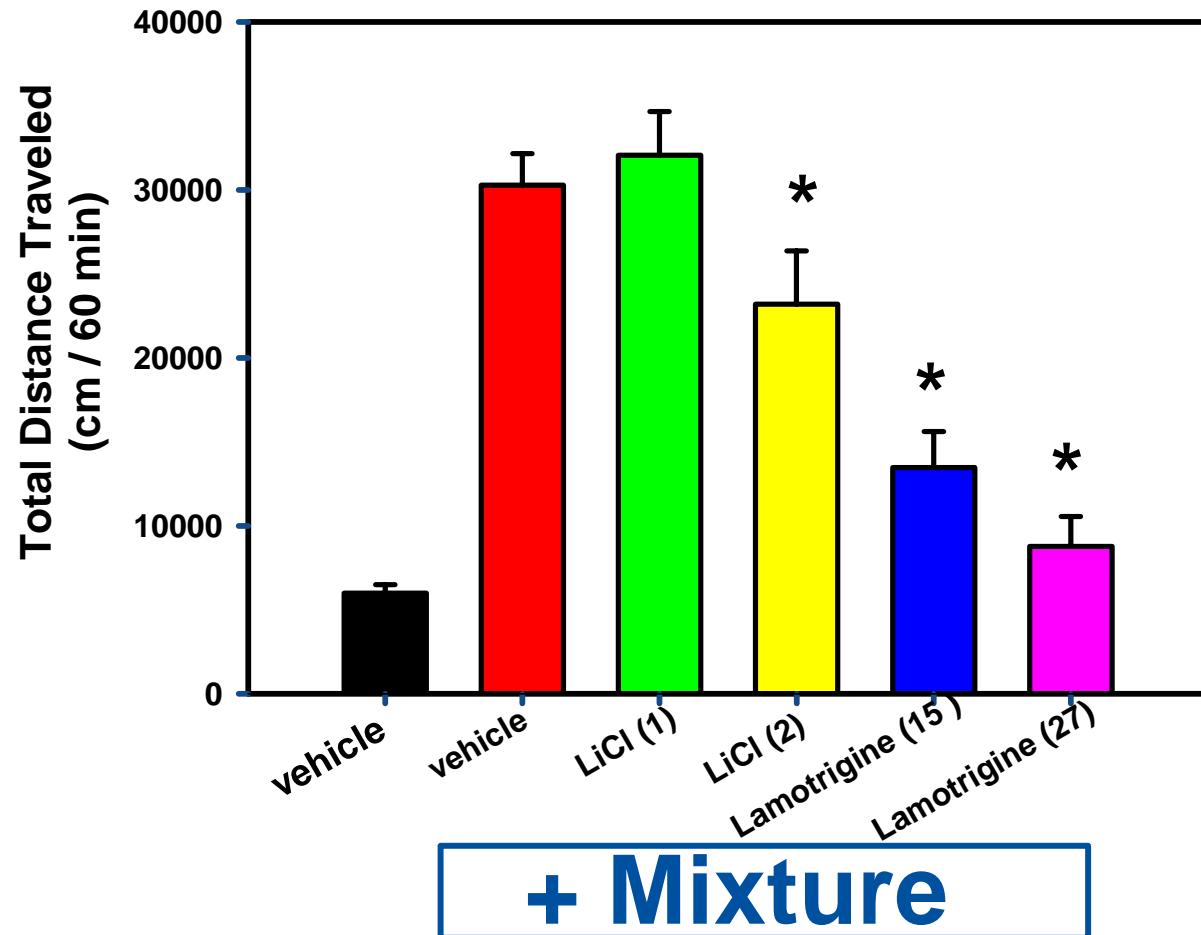
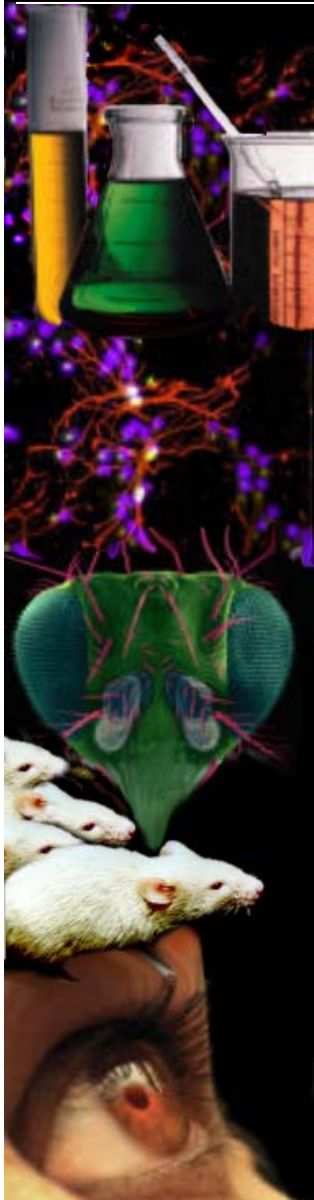
Amphetamine / CDP Induced hyperactivity

Effect of valproate

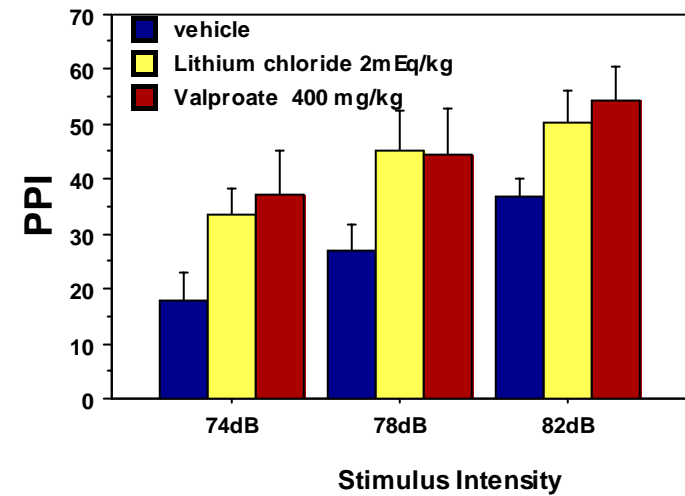
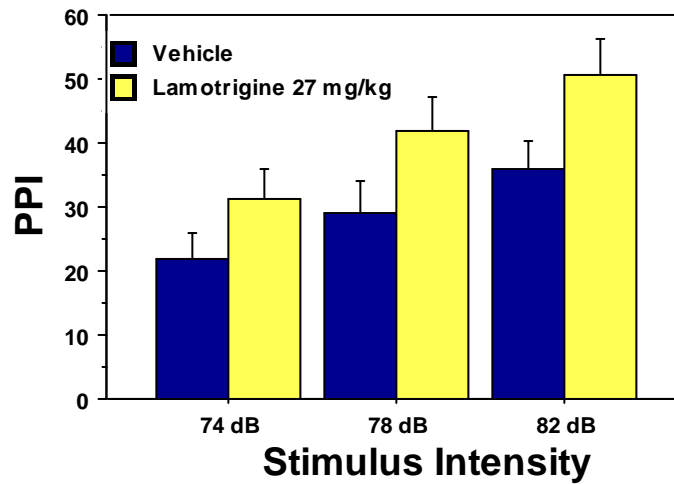
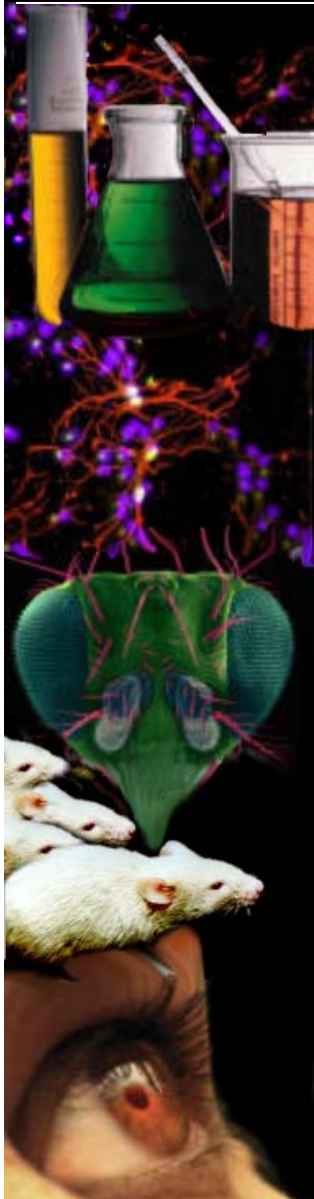


Amphetamine / CDP Induced Hyperactivity

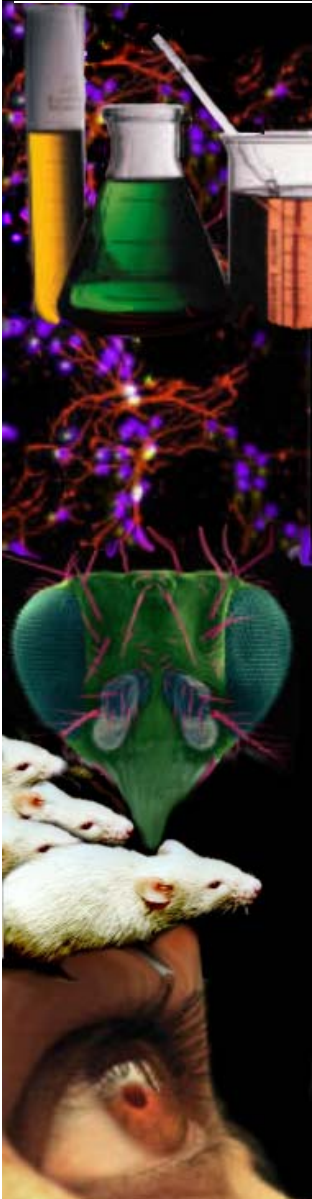
Effect of Lithium and Lamotrigine



PPI model of mania

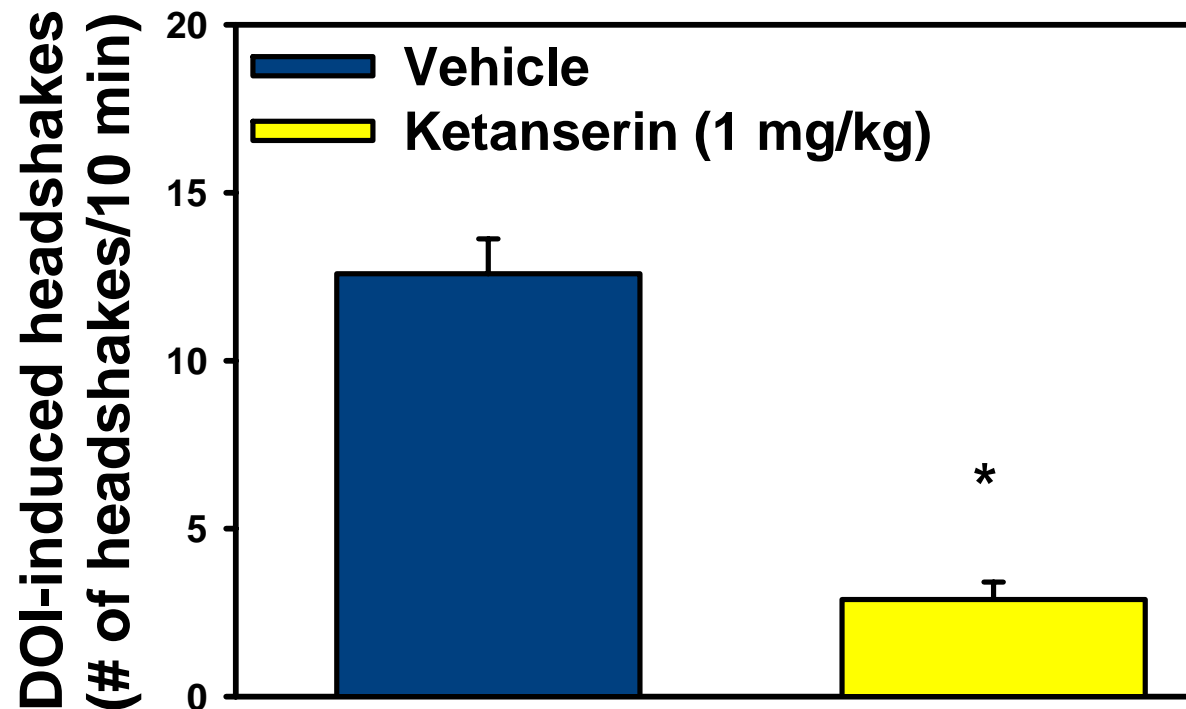
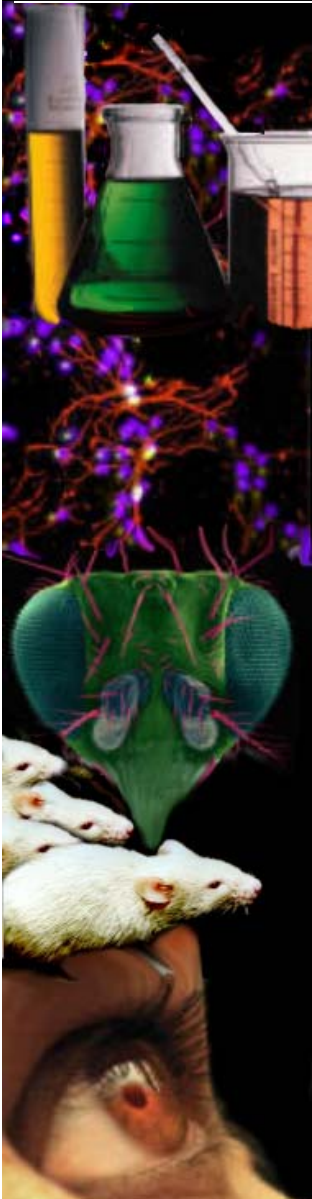


DOI-induced headshakes



- DOI, a hallucinogen that activates 5-HT₂ receptors, can induced head shakes and “wet dog” shakes in rodents.
- DOI-induced headshakes in rodents used to evaluate potential antipsychotics and potential treatments for Tourette’s Syndrome.
- Mice or rats are injected with DOI and the number of headshakes or “wet dog” shakes are counted for 10 minutes.

Ketanserin attenuates DOI-induced headshakes in rats



Ketanserin attenuates DOI-induced headshakes in ICR mice

