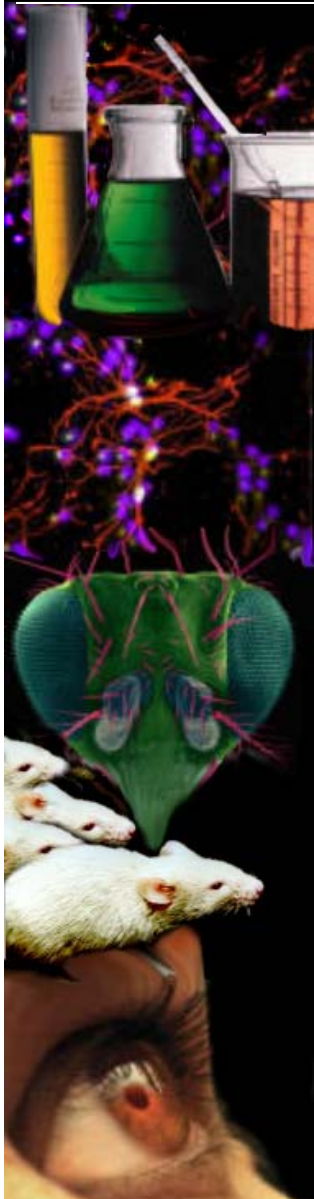


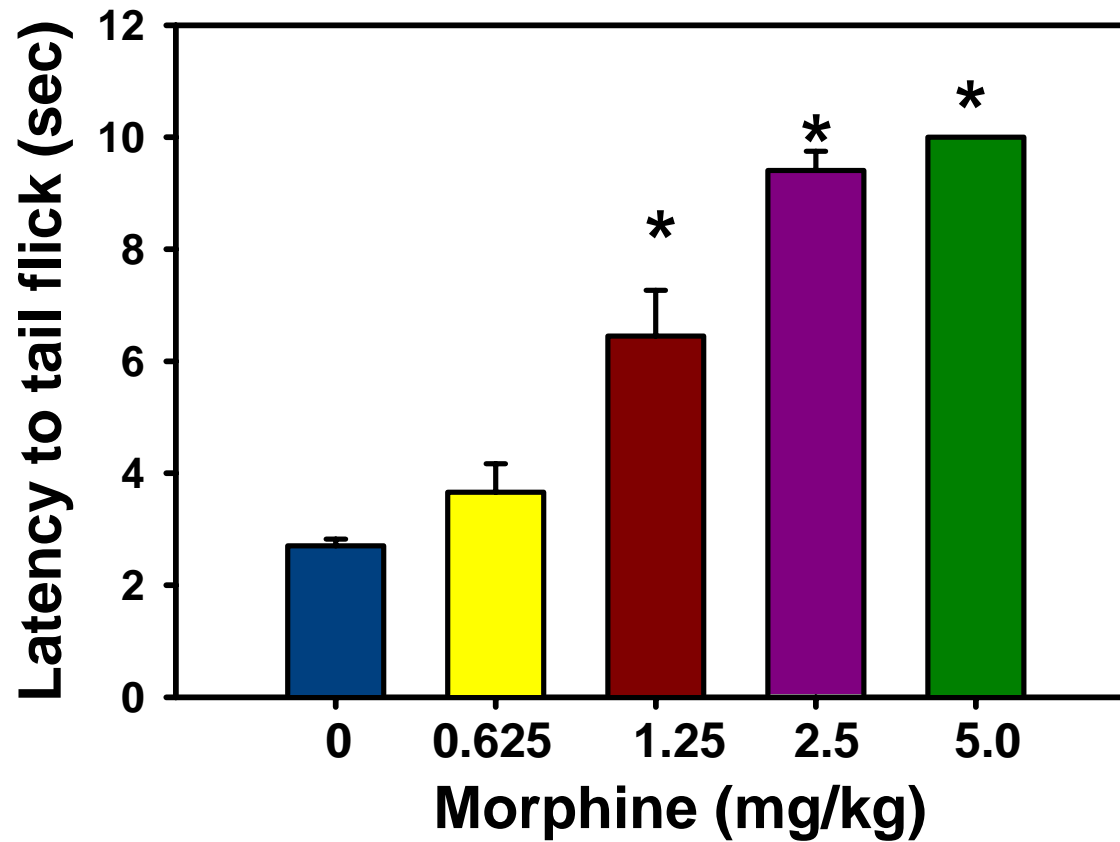
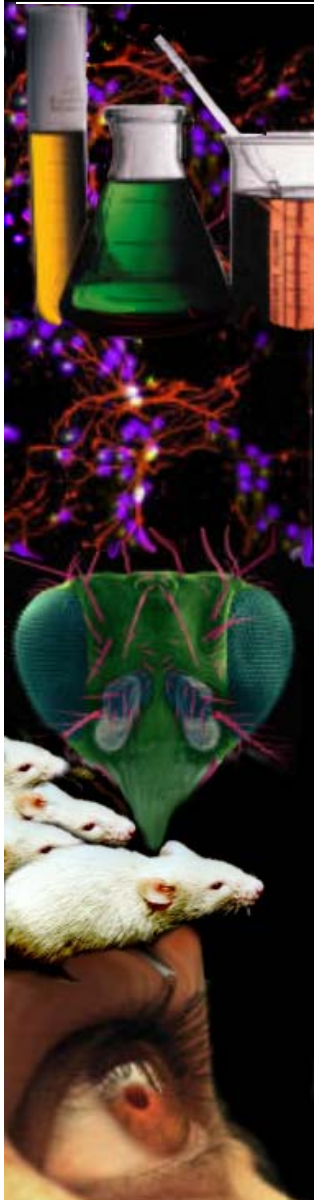
Behavior Paradigms for Pain

Pain Models



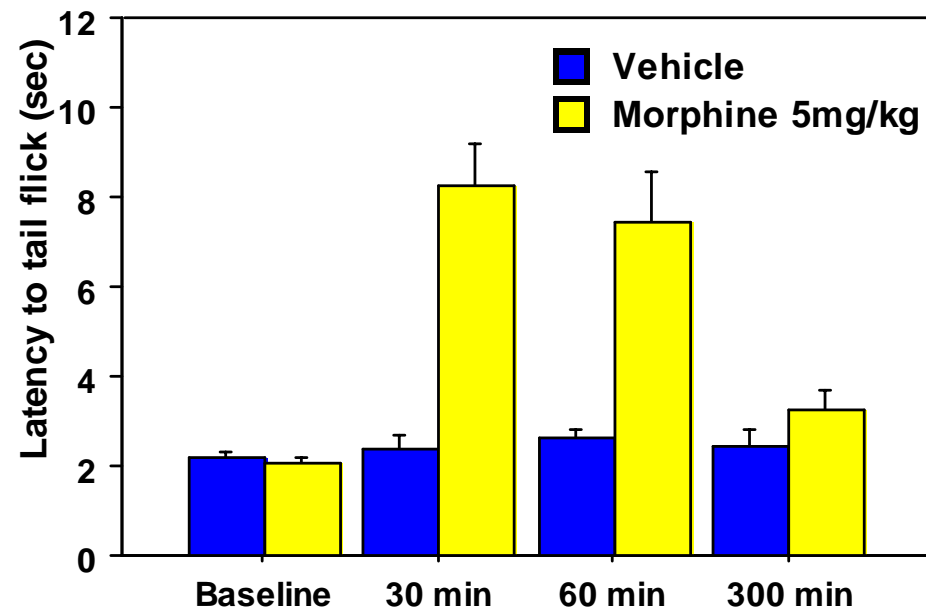
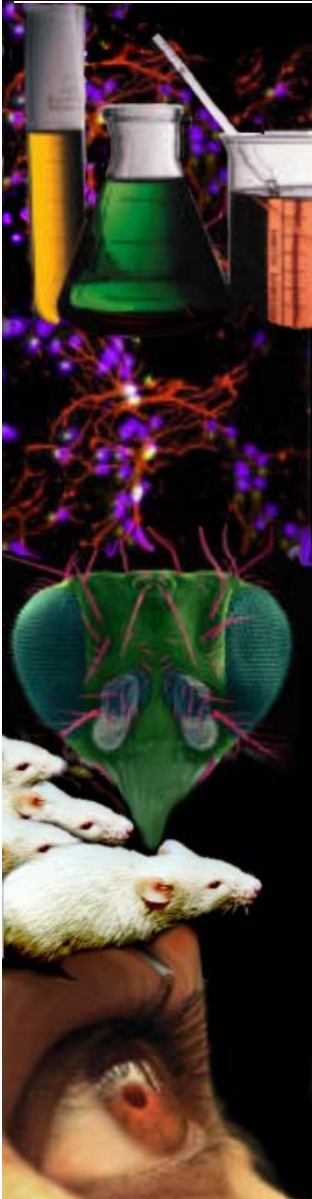
ACUTE PAIN	PERSISTENT/ INFLAMMATORY PAIN			NEUROPATHIC PAIN
Thermal or mechanical	Visceral	Intradermal Paw: <i>Pain only</i>	Intradermal Paw : <i>Pain and inflammation</i>	Bennett model
<ul style="list-style-type: none"> ❖ Hot plate or paw immersion ❖ Tail flick or tail immersion. ❖ Von Frey Filaments 	Phenylquinone or acetic acid-induced writhing	Formalin	Carrageenan	

Effect of Morphine on Tail Flick

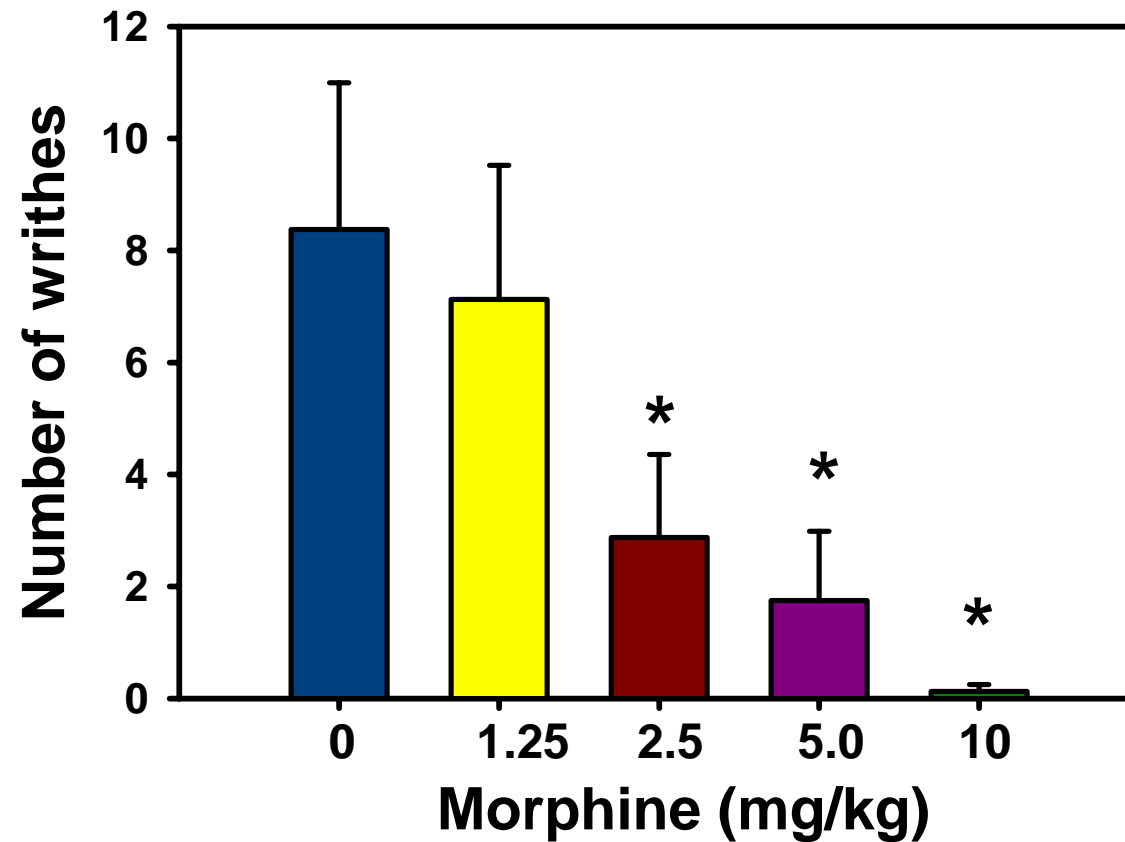
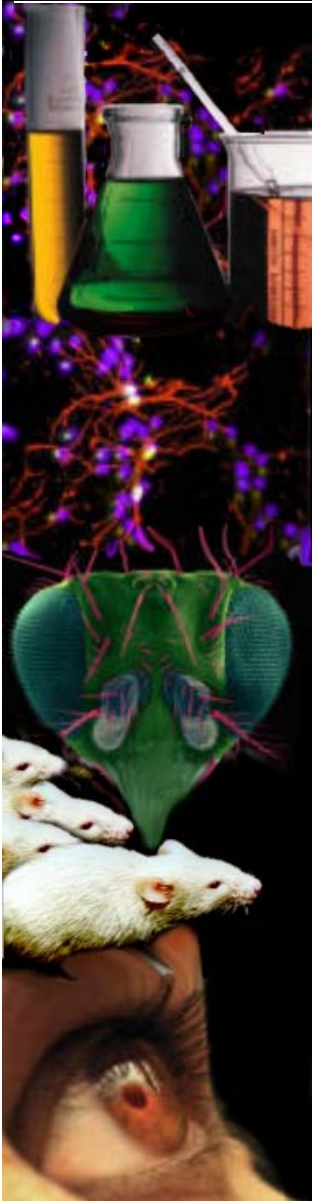


IR settings: 75
Mouse strain: CD1

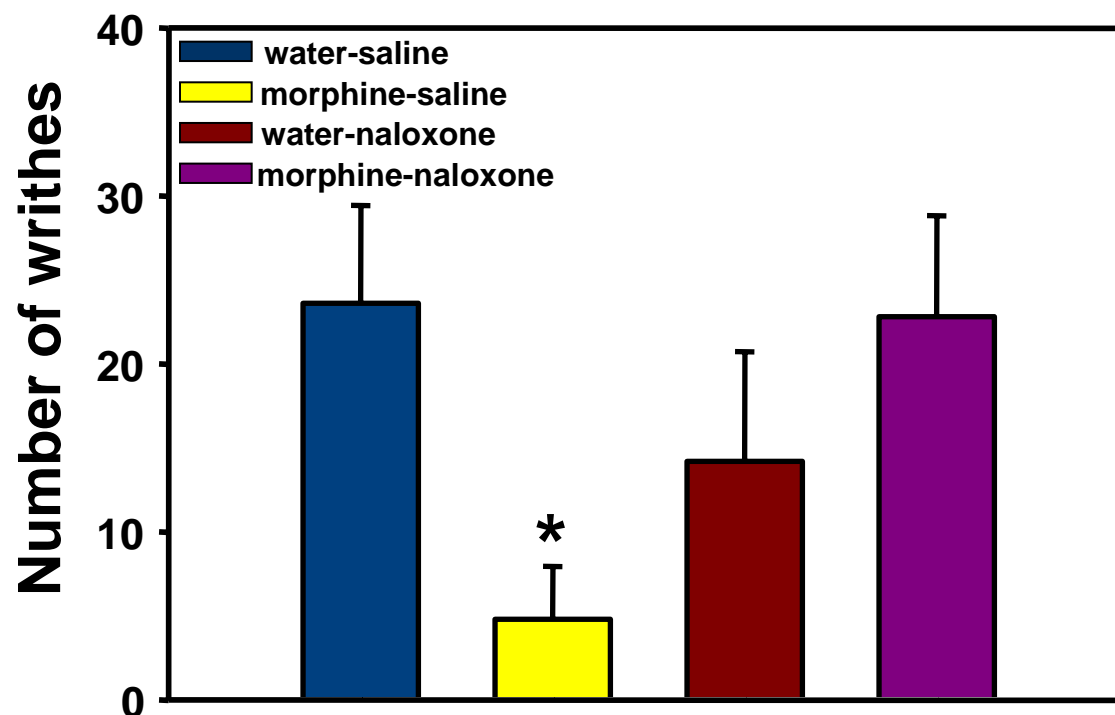
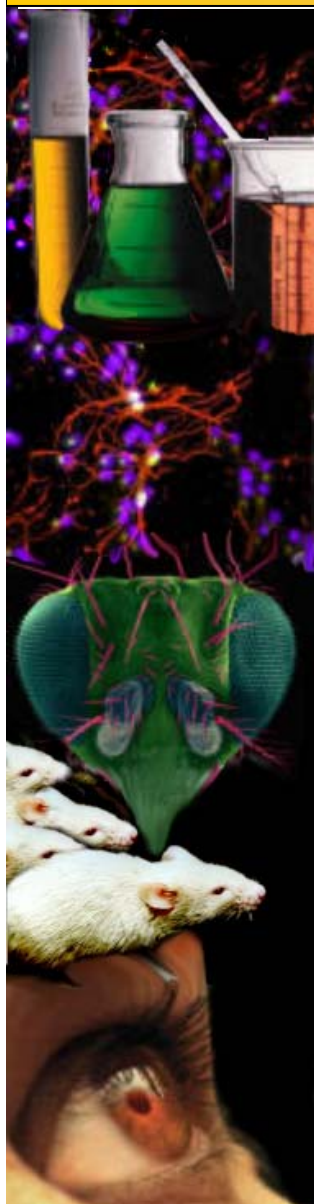
Time Course – Effect of Morphine on TF



Effects of Morphine on Phenylquinone-induced Writhing

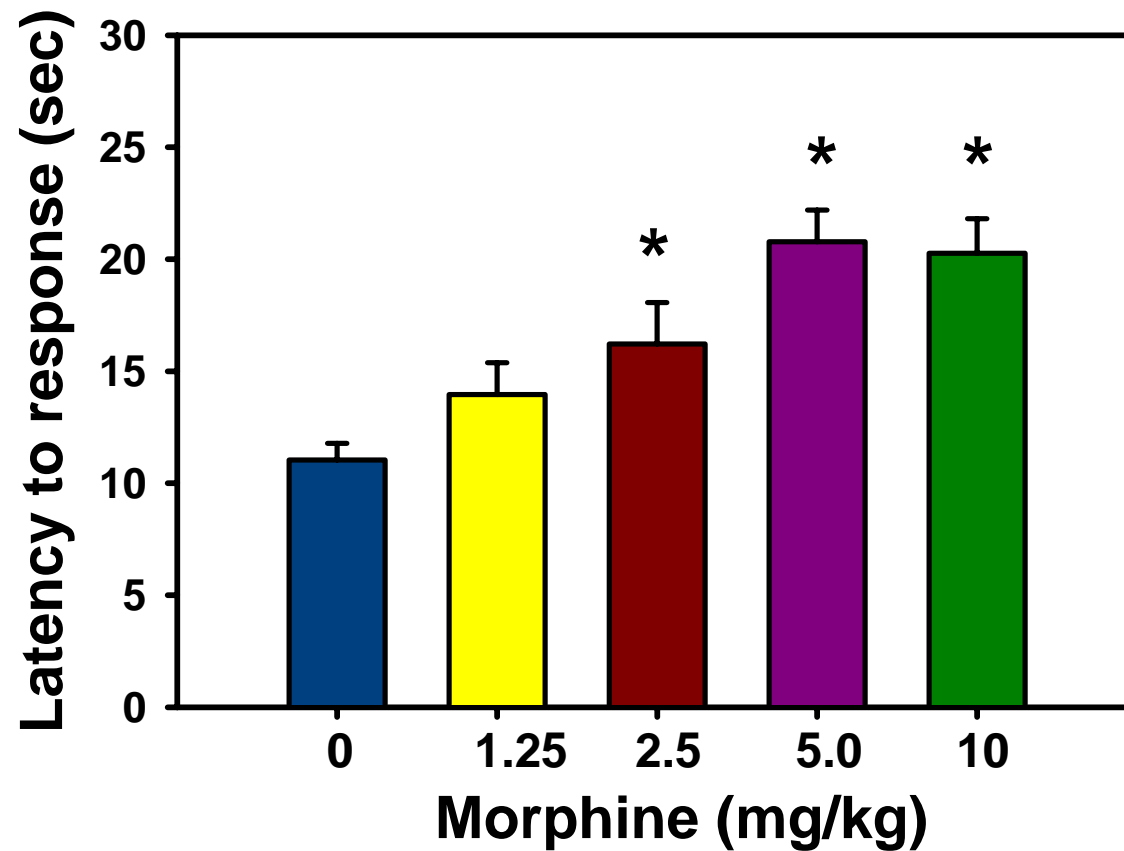
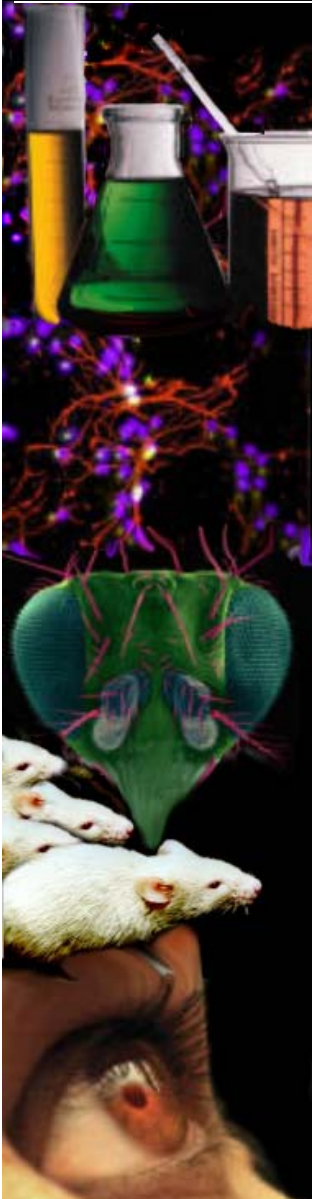


Naloxone blocks the effects of morphine on Phenylquinone-induced writhing

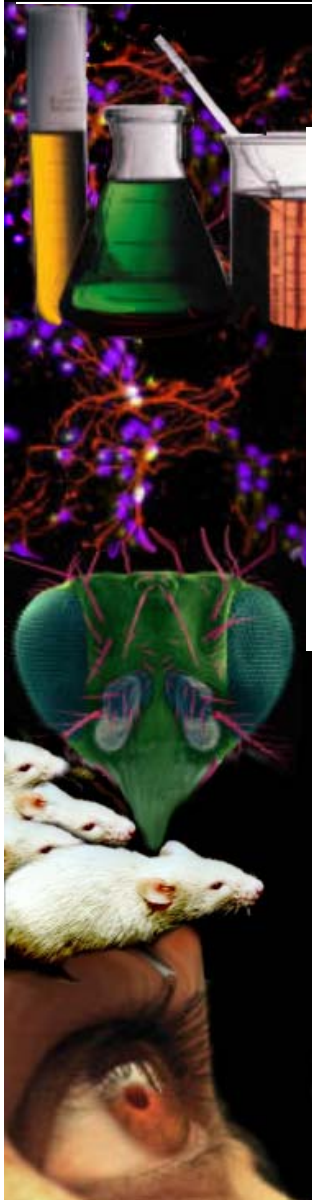


Naloxone: 10 mg/kg
Morphine: 5 mg/kg
Mouse strain: ICR

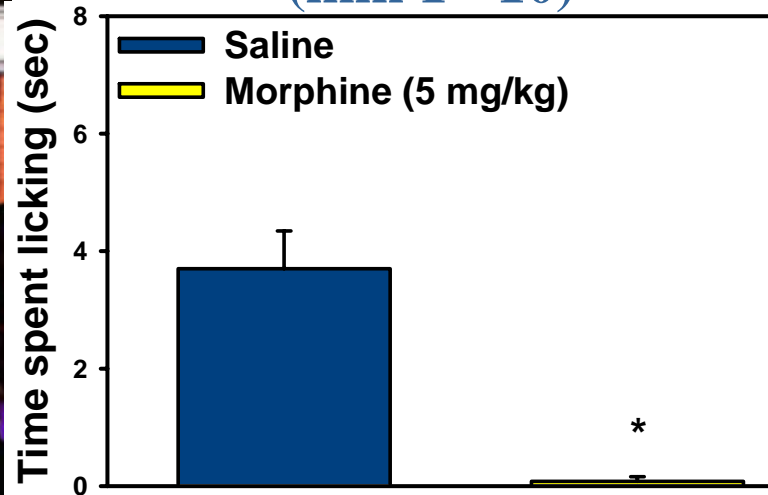
Effect of Morphine on Hot Plate Test



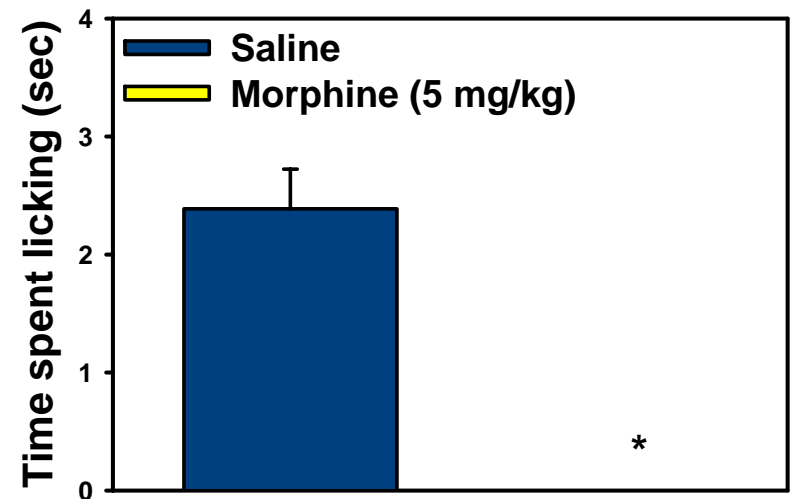
Morphine Decreases Time spent licking formalin-injected paw



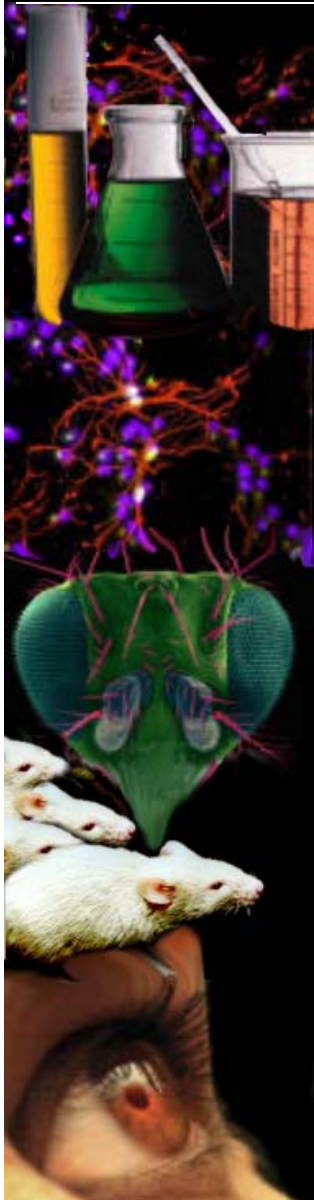
Acute Response (min 1 - 10)



Late Phase Response (min 11 - 40)

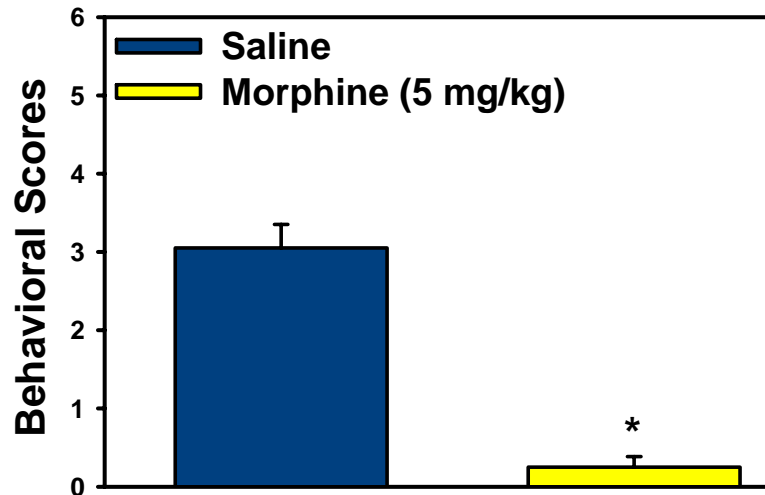


Morphine has Analgesic Effects on Formalin-injected paw

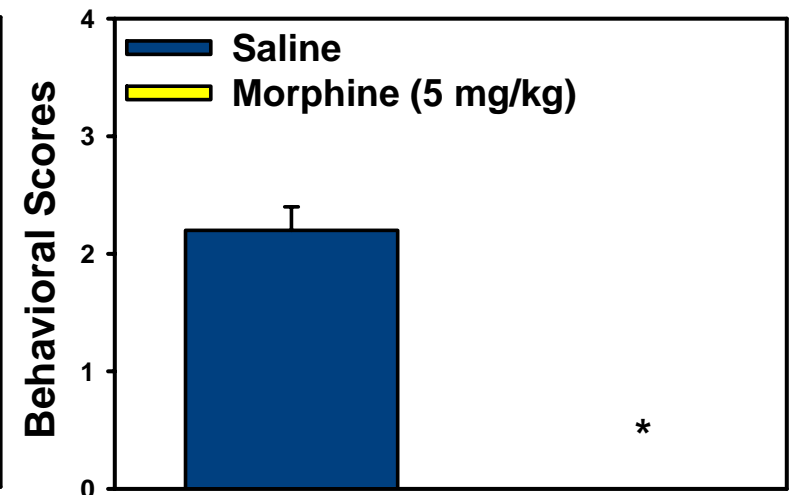


Score	Behavior
0	Normal weight bearing on paw.
1	Limping or resting the paw lightly on the floor.
2	Lifting paw.
3	Flinching/shaking paw.
4	Licking, biting, or grooming paw

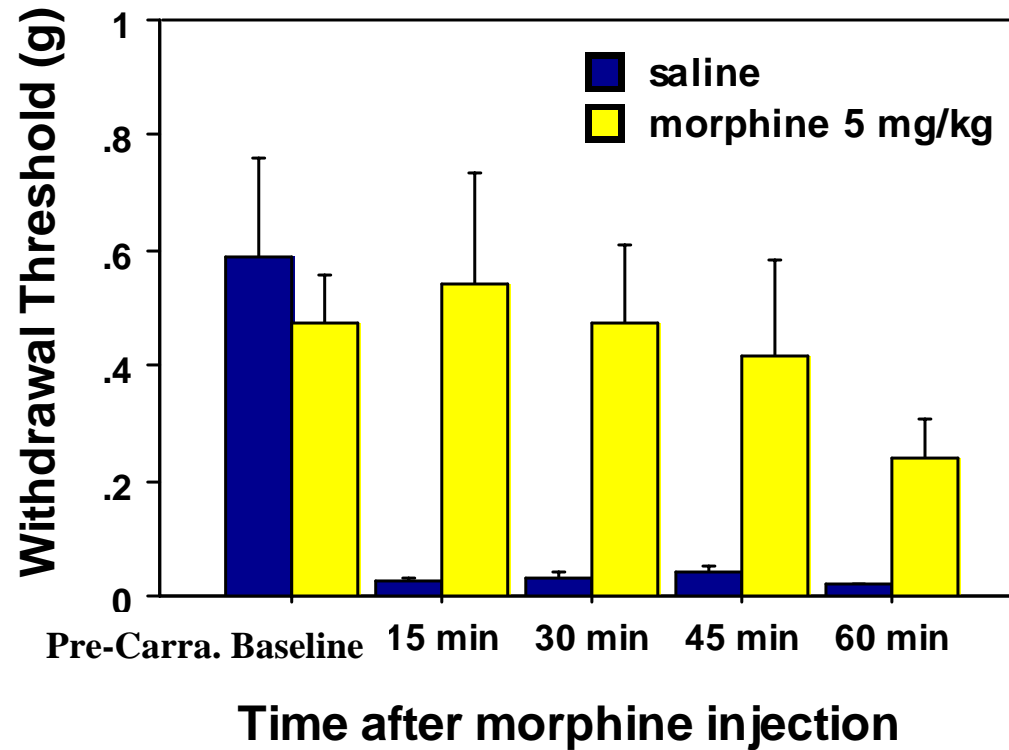
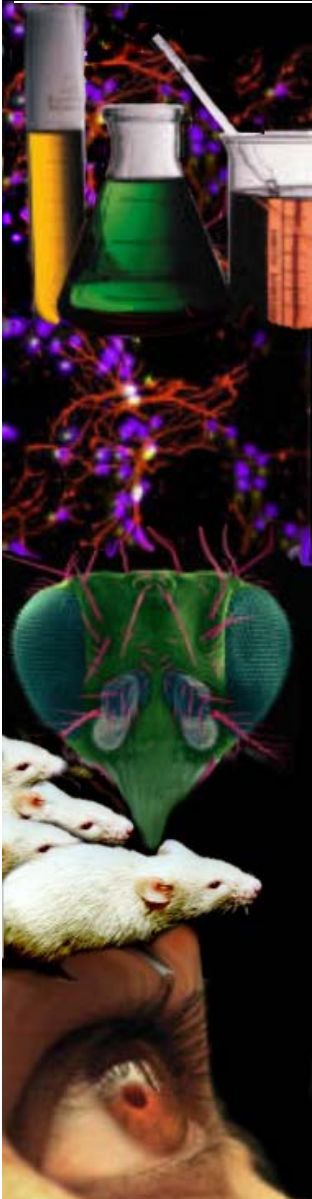
Acute Response (min 1 - 10)



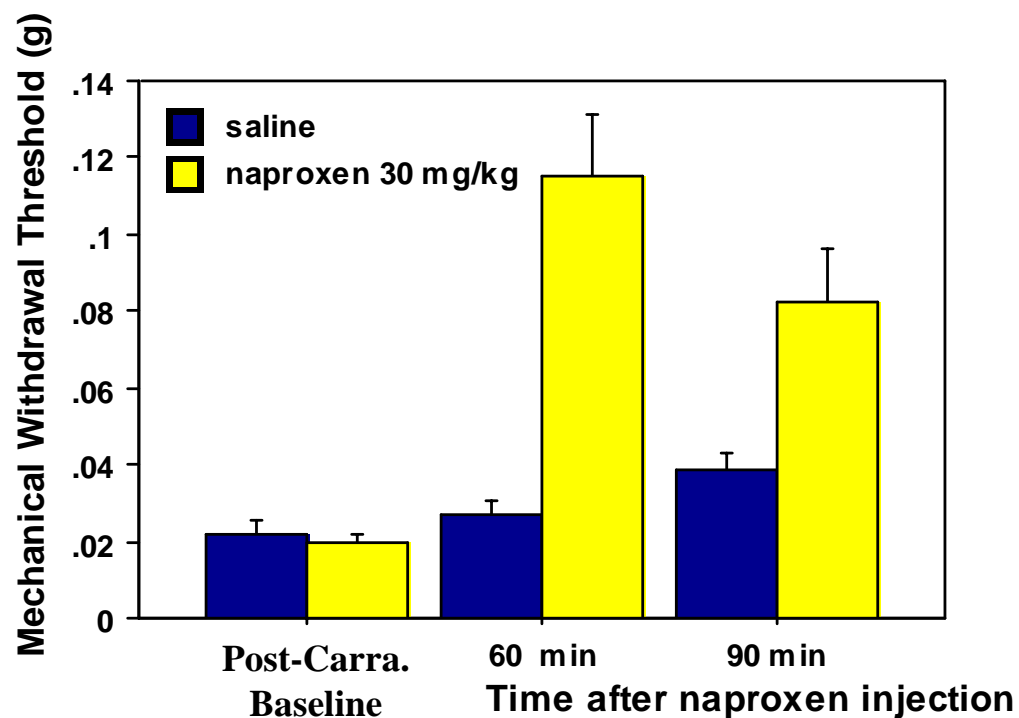
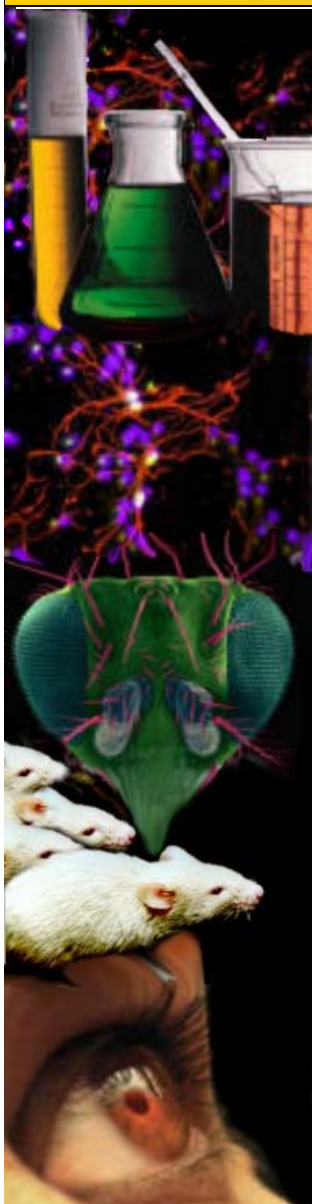
Late Phase Response (min 11 - 40)



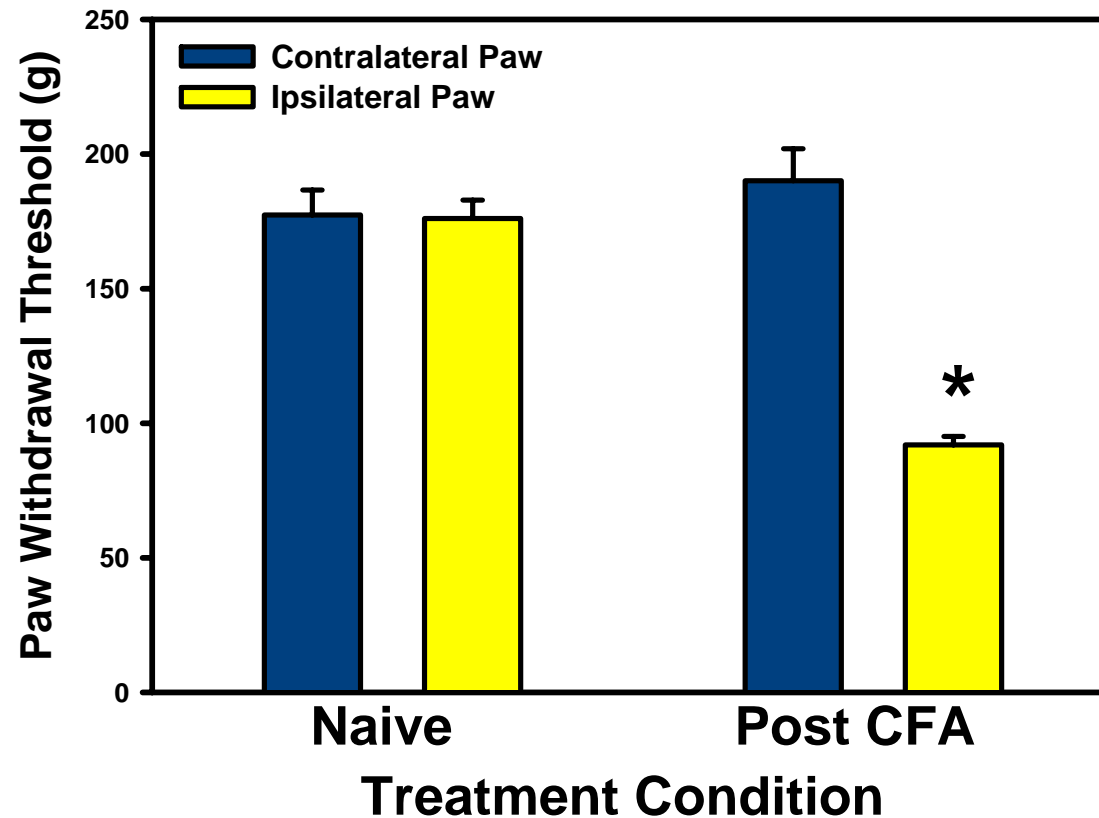
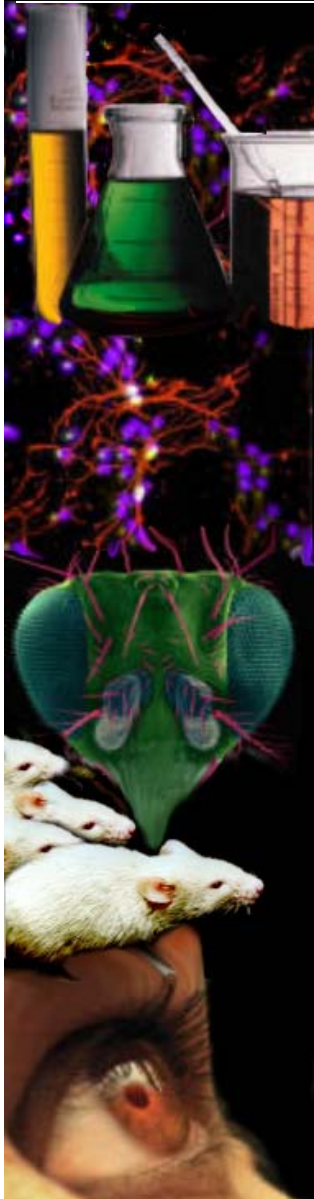
Morphine Decreases Carrageenan-induced Mechanical Hyperalgesia



Naproxen Decreases Carrageenan-induced Mechanical Hyperalgesia

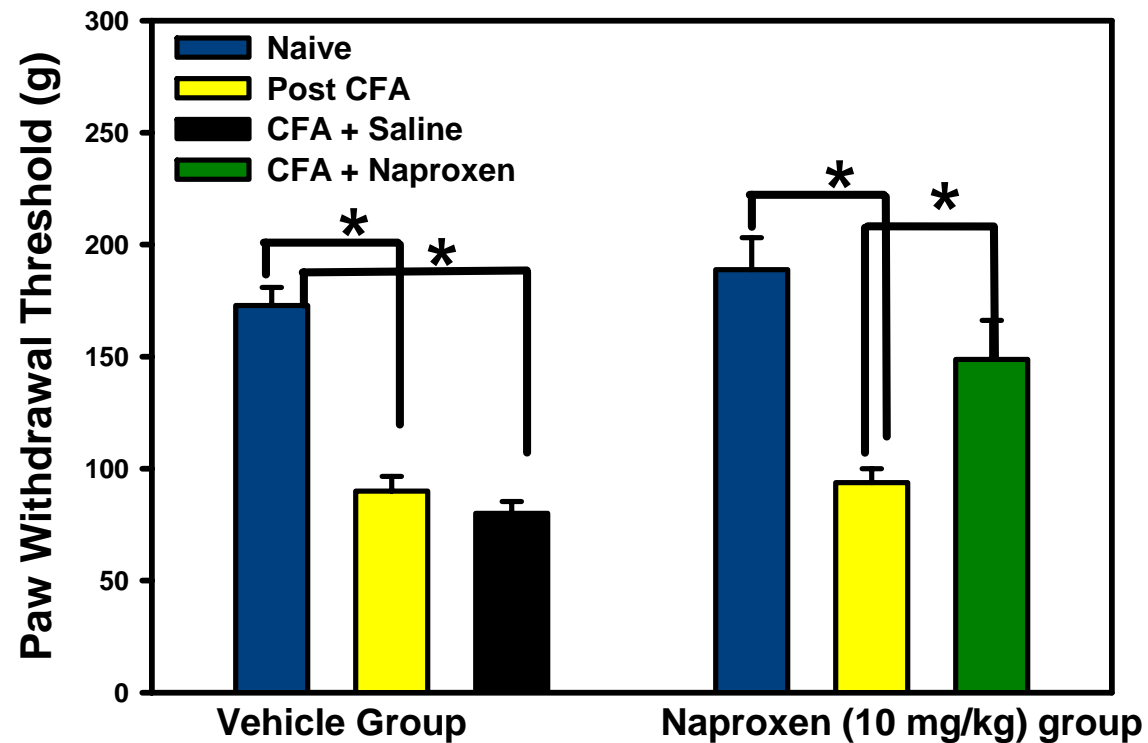
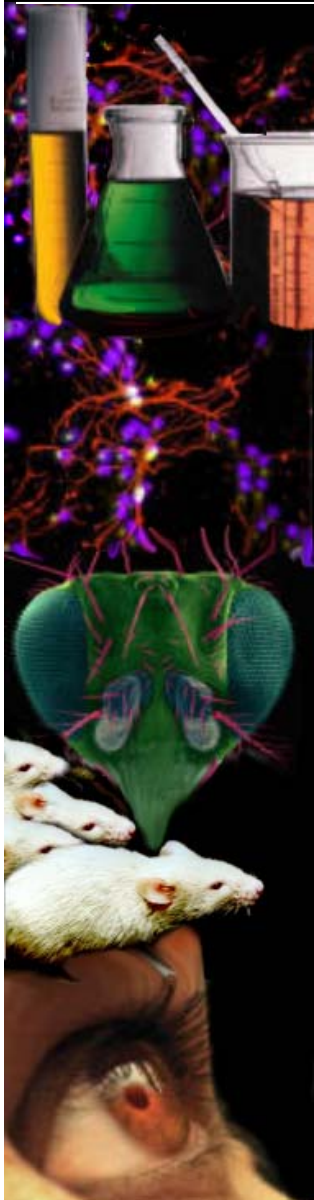


Randall-Selitto

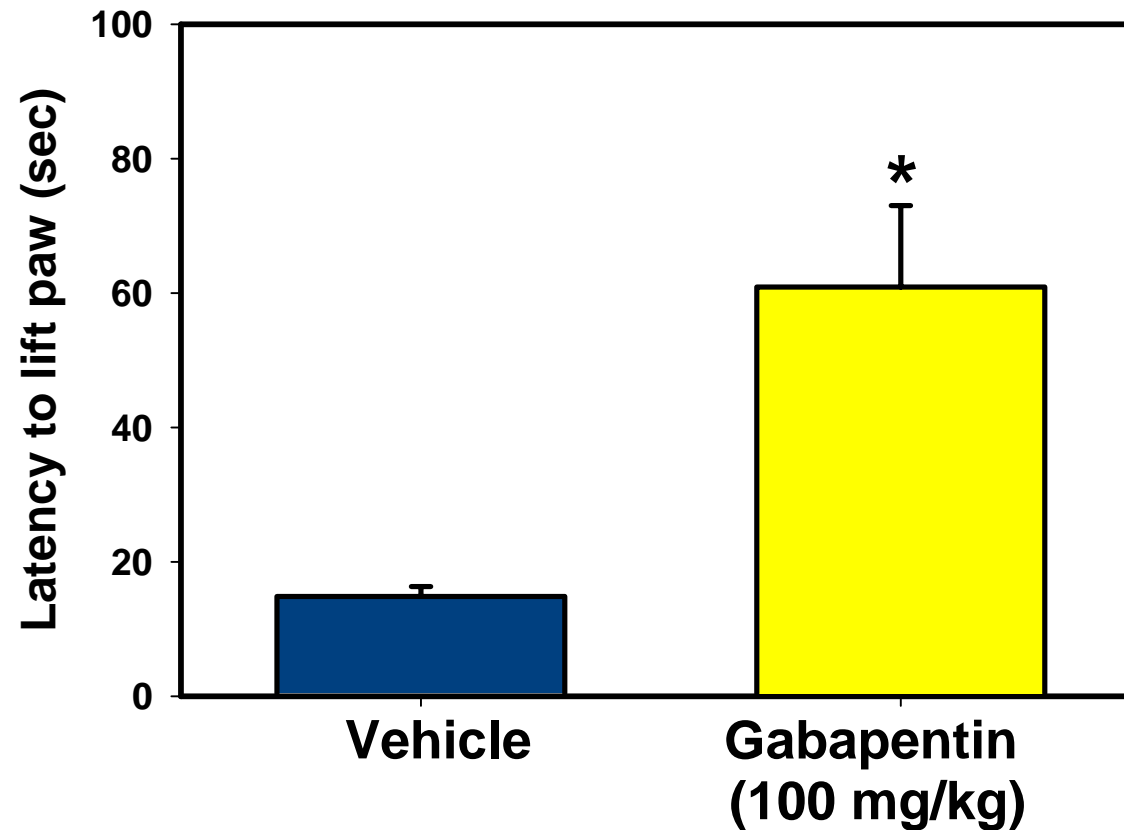
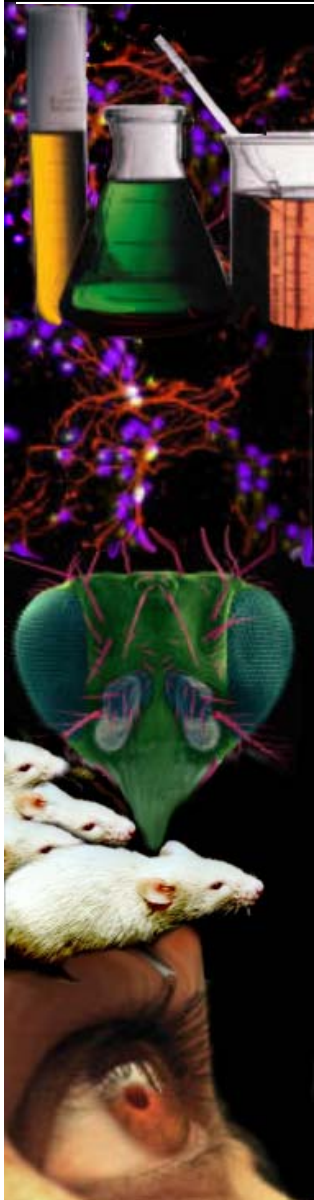


Test that measures mechanical hyperalgesia following inflammation caused by intraplantar injection of complete Freund's adjuvant (CFA).

Naproxen decreases CFA-induced mechanical hyperalgesia



Neuropathic Pain: Sciatic Nerve Ligation



Pretreatment with gabapentin increases the latency to lift paw for the cold plate in sciatic-nerve ligated rats.