**Effects of NEPE14 on Conditioned Behavior and Nociception**

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**Introduction**

As the highly addictive and dangerous effects of opioids are becoming more widely known, cannabinoids have been discussed as a potential replacement for opioids in the reduction of pain. Therefore, our research examined the effects of a Non-Euphoric Phytocannabinoid Elixir (NEPE14) on thermal nociception and conditioned behavior in a group of Sprague-Dawley rats after sublingual (s.l.) and intraperitoneal (i.p.) administration. A model of Complete Freund's Adjuvant (CFA)-induced hyperalgesia was also used to assess the effects of NEPE14 on chronic inflammation-induced mechanical and thermal pain in two group of subjects (saline versus NEPE14). In the behavioral experiments, the subjects served as their own control and were tested for antinociception after the behavioral session.

**Results**

**NEPE14 Alleviates Mechanical Hyperalgesia in CFA-Treated Female Rats**

- Figure 1. Graphs show the reduction of mechanical and thermal hyperalgesia by NEPE14 administration in CFA-treated female rats. Paw-withdrawal threshold increased on both measures of hyperalgesia as the volume of NEPE14 administered increased compared to saline administration. For mechanical hyperalgesia, there was a main effect of NEPE14 volume (p = 0.0433) and a main effect of CFA (p = 0.0001). When tested for thermal hyperalgesia there was a main effect of dose (p = 0.0261) and a main effect of CFA (p = 0.0181). These results show that NEPE14 alleviated both mechanical and thermal hyperalgesia in CFA-treated female rats.

**Conclusion**

- NEPE14, administered i.p. or s.l., did not significantly affect either conditioned behavior or tail-withdrawal latency in the absence of chronic inflammatory pain.
- However, i.p. NEPE14 decreased chronic CFA-induced mechanical and thermal hyperalgesia, suggesting that it may be effective for treating chronic inflammatory pain. These same doses that were effective for reducing hyperalgesia did not disrupt conditioned behavior.
- These effects suggest that certain cannabinoid products such as NEPE14 may have potential for treating inflammatory pain in humans.