Nalbuphine attenuates itch in the substance P-induced mouse model

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Abstract
Nalbuphine is a mixed mu antagonist/kappa agonist opioid. The effect of nalbuphine on peripheral pruritus was investigated. Nalbuphine is superior to vehicle (PBS) at suppressing scratching behavior in an itch mouse model. Nalbuphine reduces Morphine-induced itch in human and rodents. Nalbuphine reduces itching in the pruritic mouse model, and it has potential for the treatment of various pruritic conditions.

Study Design
Scraping time course following intradermal administration of SubP (250 ng/kg SC) in PBS or vehicle only (PBS, 0.05 mL).

Conduct of Experiment
Scraping time course following pre-treatment with Nalbuphine 30 mg/kg SC 30 minutes prior to SubP challenge.

Scoring of Scratching

Effect of Nalbuphine on SubP Scratching in mice

Next Steps

Mouse Study Conclusions

• SubP itch model was successfully established.

• Nalbuphine significantly reduced scratching behavior in the SubP-induced mouse model.

• Nalbuphine has potential for the treatment of peripheral pruritus.

• Nalbuphine is a promising candidate for the treatment of various pruritic conditions.