

Treatment of Opioid Induced Constipation

Opioids are the most commonly prescribed medication for the treatment of severe pain. However, opioid use can produce multiple adverse side-effects which include drug abuse, dependence, and constipation. These side-effects are mostly attributed to opioid binding at mu opioid receptors in the central nervous system.

The technology

Researchers at Virginia Commonwealth University have developed a nanoparticle-based opioid conjugate that has increased bioavailability and carrying capacity of a peripheral nervous system selective opioid antagonist. This conjugate has excellent oral availability and half-life with the potential to treat opioid induced constipation. Nanoparticle-based delivery systems provide additional stability to the opioid ligand, and produce very low therapeutic side effects.

Benefits

- » Treat constipation without compromising pain relief of opioids
 - No opioid abuse liability
 - No opioid dependence
 - Does not affect the CNS
- » Low dose requirement with slow release potential

Applications

- » Opioid induced constipation

Patent status:

Patent issued: U.S. rights are available.
15/998,948

License status:

This technology is available for licensing to industry for further development and commercialization.

Category:

Biomedical

VCU Tech #:

13-106F, 16-003F

Investigators:

[Yan Zhang, Ph.D.](#)
[Dana Selley, Ph.D.](#)
[William Dewey, Ph.D.](#)
[Hamid Akbarali, Ph.D.](#)

In vitro and *in vivo* data available

Contact us about this technology

Magdalena K. Morgan, Ph.D.
Director of Licensing
mkmorgan@vcu.edu
(804) 827-6095

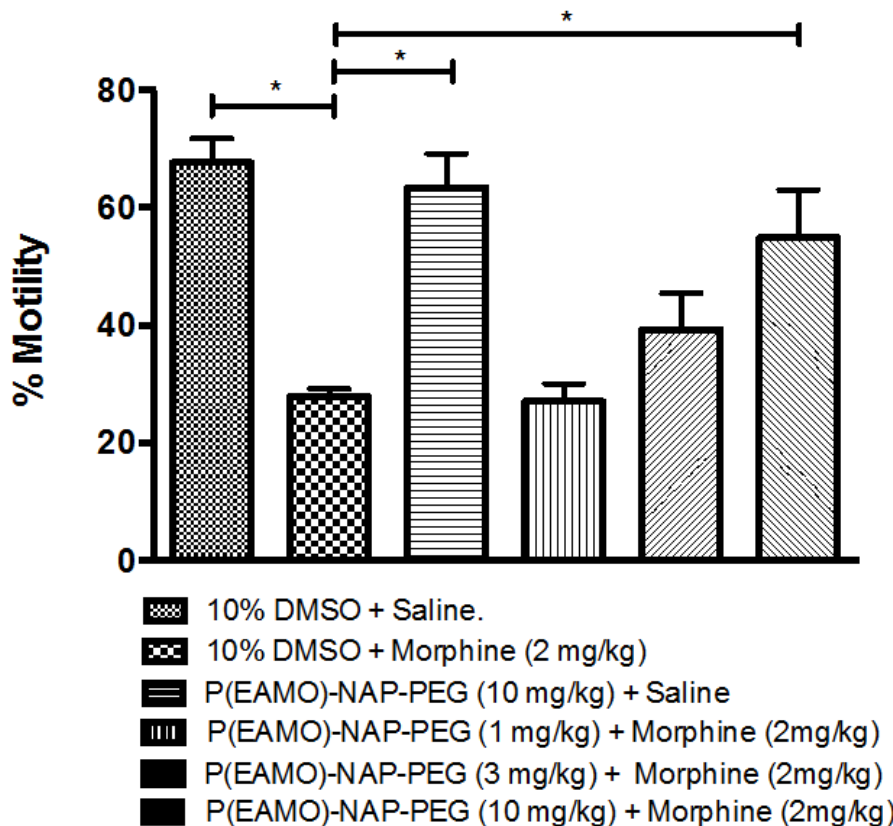


Figure 1. P(EAMO)-NAP-PEG effects on intestinal motility in acute morphine treated mice through oral administration.