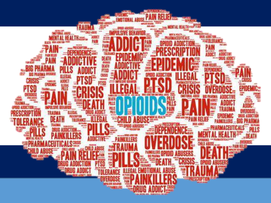
Non Addictive Pain Relief

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Credit: **Universidad del Cauca / human research**

The development of addiction free medications effective for treating severe pain is a major aim for combating the misuse of prescription opioids, preventing the development of opioid addiction, and preventing the misfortune of an overdose. Opioid-containing painkillers have severe side effects and have also been associated with extensive misuse, particularly in the United States. Recent findings represent a significant step towards the development of a new generation of painkillers. Although widely used μ-opioid receptor agonists (oxycodone, hydrocodone, and morphine) are extremely effective analgesics in a clinical setting, they have helped fuel the opioid crisis.

Of the four opioid receptor types—μ-, κ-, δ-opioid receptors, and the nociceptin (NOP) / orphanin FQ/opioid receptor-like orphan receptor—the μ-opioid receptor has been most extensively studied due to its role in mediating the actions of morphine-type analgesic agents as well as drugs of abuse.

The researchers are exploring the option of alleviating inflammatory and postoperative pain by directly targeting the site of its origin injured tissue. In contrast to conventional opioids, the new drugs will only activate opioid receptors (the docking stations for pain-relieving medication) under acidic conditions. Various approaches to the development of analgesic drugs have explored unique receptor agonism and/or antagonism combinations or mixed agonism/antagonism of the various opioid receptor types.

As a strategy to avoid the adverse or addictive effects of opioids, inhibition of sEH would sustain the pain- and inflammation-resolving activity of fatty acid epoxides. Potent sEH inhibitors, including AUDA, the 1-aryl-3-(1-acylpiperidin-4-yl)urea analog CAY10640, trans-AUCB, and TPPU, have been shown to reduce hyperalgesia in animal pain models.

Chronic pain develops through a learned association to a stimulus.

Recommended Reading
https://www.caymanchem.com/news/non-addictive-pain-relief

According to the researchers' findings, both the fine-tuning of the pKa value and the formation of specific chemical bonds to opioid receptors will be crucial factors in the development of new types of drugs.

The opioid epidemic is taking its toll on rural America, and it's hitting farm and ranch families especially hard. The American Farm Bureau Federation and National Farmers Union are joining forces in the fight against opioid addiction with a campaign called Farm Town Strong.

Recommended Reading
https://farmtownstrong.org/

An October 2017 Morning Consult survey finds that the opioid crisis has struck farm and ranch families much harder than the rest of rural America.

Farmers report that it is easy for someone in their community to access a large amount opioids, while access to treatment and services is not so easy.

References:

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