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Correction to "Pharmacological Comparison of Mitragynine and 7-Hydroxymitragynine: In Vitro Affinity and Efficacy for μ-Opioid Receptor and Opioid-Like Behavioral Effects in Rats"

In the above article [Obeng S, Wilkerson JL, León F, Reeves ME, Restrepo LF, Gamez-Jimenez LR, Patel A, Pennington AE, Taylor VA, Ho NP, Braun T, Fortner JD, Crowley ML, Williamson MR, Pallares VLC, Mottinelli M, Lopera-Londoño C, McCurdy CR, McMahon LR, and Hiranita T (2021) *J Pharmacol Exp Ther* 376:410–427 DOI: https://doi.org/10.1124/jpet.120.000189] the authors found the ki values were accidently inverted for mitragynine and 7-phydroxy in the second sentence of the abstract. The corrected abstract is provided below.

ABSTRACT

Relationships between μ-opioid receptor (MOR) efficacy and effects of mitragynine and 7-hydroxymitragynine are not fully established. We assessed in vitro binding affinity and efficacy and discriminative stimulus effects together with antinociception in rats. The binding affinities of mitragynine and 7-hydroxymitragynine at MOR (K_i values 7709 and 77.9 nM, respectively) were higher than their binding affinities at κ- (KOR) or δ-opioid receptors (DOR). [^{35}S]GTPγS stimulation at MOR demonstrated that mitragynine was an antagonist, whereas 7-hydroxymitragynine was a partial agonist (E_{max} = 41.3%). In separate groups of rats discriminating either morphine (3.2 mg/kg) or mitragynine (32 mg/kg), mitragynine produced a maximum of 72.3% morphine-lever responding, and morphine produced a maximum of 65.4% mitragynine-lever responding. Other MOR agonists produced high percentages of drug-lever responding in the morphine and mitragynine discrimination assays: 7-hydroxymitragynine (99.7% and 98.1%, respectively), fentanyl (99.7% and 80.1%, respectively), buprenorphine (99.8% and 79.4%, respectively), and nalbuphine (99.4% and 98.3%, respectively). In the morphine and mitragynine discrimination assays, the KOR agonist U69,593 produced maximums of 72.3% and 22.3%, respectively, and the DOR agonist SNC 80 produced maximums of 34.3% and 23.0%, respectively. 7-Hydroxymitragynine produced antinociception; mitragynine did not. Naltrexone antagonized all of the effects of morphine and 7-hydroxymitragynine; naltrexone antagonized the discriminative stimulus effects of mitragynine but not its rate-decreasing effects. Mitragynine increased the potency of the morphine discrimination yet decreased morphine antinociception. Here we illustrate striking differences in MOR efficacy, with mitragynine having less than 7-hydroxymitragynine.

The PDF and HTML versions of the article have been corrected.

The authors apologize for any inconvenience caused by this error.