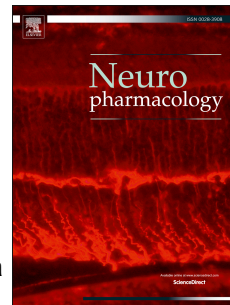


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Investigation of the role of β arrestin2 in kappa opioid receptor modulation in a mouse model of pruritus

Jenny Morgenweck¹, Kevin J. Frankowski², Thomas E. Priszano², Jeffrey Aubé², Laura M. Bohn^{1*}

¹Departments of Molecular Therapeutics and Neuroscience, The Scripps Research Institute, 130 Scripps Way, Jupiter, FL 33458, USA

²Department of Medicinal Chemistry, University of Kansas, Lawrence, KS 66047, USA

*To whom correspondence should be addressed.

LMB: Departments of Molecular Therapeutics and Neuroscience, The Scripps Research Institute, 130 Scripps Way, #2A2, Jupiter, FL 33458, Telephone: (561) 228-2227; Fax: (561) 228-3081; Email: lbohn@scripps.edu

Keywords: pruritus, kappa opioid receptor, biased ligand, mouse models of itch, U50,488H, KOR antagonist

Abbreviations:

β arr2-KO, β arrestin2 knockout; CP, chloroquine phosphate; CPA, conditioned place aversion; DMSO, dimethyl sulfoxide; 5'-GNTI, 5'-guanidinonaltrindole; GPCR, G protein coupled receptor; GRK3, GPCR kinase 3; [³⁵S]GTP γ S, guanosine 5'-O-(3-[³⁵S]thio)triphosphate; KOR, kappa opioid receptor; KOR-KO, kappa opioid receptor knockout; MOR, mu opioid receptor; NorBNI, nor-binaltorphimine; WT, wild type

Highlights:

KOR agonists are clinically used for pruritis yet most KOR agonists induce sedation.

G protein/ β arrestin2 biased KOR agonists are antipruritic yet not sedating in mice.

Biased KOR agonists may have therapeutic utility in treating pruritis.

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