

DESIGN AND SYNTHESIS OF CB2 RECEPTORS MODULATORS AS AN EMERGING OPPORTUNITY TO TREAT PAIN AND INFLAMMATION

While acute pain is a physiological sensation triggered in the nervous system to alert the organism against a possible injury, the condition of chronic pain represents a major challenge to healthcare providers because of its complex nature and unclear etiology. Existing therapies for chronic pain are far from effective. This underscores the importance of considering, validating, and pursuing alternative targets to treat refractory pain. The ongoing project is aimed to validate emerging opportunities in this therapeutic area offered by the activation of the cannabinoid CB2 receptors, which are involved in the generation and/or transmission of pain signals.

GOALS

- Design and synthesis of potent CB2 cannabinoid receptors agonists with high selectivity versus the CB1 cannabinoid receptors subtype that could be in future investigated and evaluated as novel analgesic medicines especially for their emerging capability to improve pain control by increasing clinical efficacy of opioids.

INSTRUMENTS AND METHODS

The compounds will be designed and synthesized with the standard equipment technology for traditional liquid phase synthesis. The chemical structures and purity of the synthesized compounds will be determined with NMR, electrospray mass, UV and IR techniques.

MAIN SUBJECTS

Medicinal chemistry, organic chemistry, pharmacology, molecular biology

RESEARCH GROUP

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COLLABORATIONS

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