Latin American Journal of Pharmacy
(formerly *Acta Farmacéutica Bonaerense*)
Lat. Am. J. Pharm. **41** (10): 1986-90 (2022)

Received: June 26, 2022
Revised: July 22, 2022
Accepted: July 23, 2022

Therapeutic Effect and Mechanism of New Heterocycles Compound in Systemic Lupus Erythematosus by Modulating Excessive Response in Macrophages

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SUMMARY. The new heterocycles compound 6-((7-(benzyloxy)-6-methoxyquinolin-4-yl)oxy)-N-methyl-1-naphthamide (**1**), designed using 6-hydroxy-1-naphthoic acid (**2**) as start material, was successfully obtained via multiple synthesis route and finally characterized by IR, ^{1}H NMR, and single crystal X-ray crystallography. Its application value on the systemic lupus erythematosus (SLE) was evaluated and the related mechanism was explored as well. Firstly, the inflammatory response in the macrophages was determined with ELISA assay. In addition to this, the expression level of the glutathione peroxidase 4 in the macrophages was further measured with real time RT-PCR assay.

RESUMEN. El nuevo compuesto heterocíclico 6-((7-(benciloxi)-6-metoxiquinolin-4-il)oxi)-N-metil-1-naftamida (**1**), diseñados utilizando ácido 6-hidroxi-1-naftoico (**2**) como material de partida, se obtuvo con éxito a través de múltiples rutas de síntesis y finalmente se caracterizó por IR, ^{1}H RMN y cristalografía de rayos X de cristal único. Se evaluó su valor de aplicación en el lupus eritematoso sistémico (LES) y también se exploró el mecanismo relacionado. En primer lugar, se determinó la respuesta inflamatoria en los macrófagos con ensayo ELISA. Además de esto, el nivel de expresión de la glutatión peroxidasa 4 en los macrófagos se midió adicionalmente con un ensayo de RT-PCR en tiempo real.

KEY WORDS: ELISA assay, heterocycles, RT-PCR assay, SLE,

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ISSN 0326 2383 (printed ed.)
ISSN 2362-3853 (on line ed.)