

Synthesis, and *In Vitro* Antitubercular Evaluation of (*E*)-*N*-(2-arylidene)-5-(pyridin-3-yl)-1,3,4-oxadiazol-2-amine Derivatives

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SUMMARY. To develop new and effective anti-tubercular drugs, a series of novel Schiff bases, (*E*)-*N*-(2-arylidene)-5-(pyridin-3-yl)-1,3,4-oxadiazol-2-amine (2a-e) were designed and synthesized by the condensation of 5-(pyridin-3-yl)-1,3,4-oxadiazol-2-amine (1) and variously substituted benzaldehydes and characterization by Infrared, ¹H-Nuclear Magnetic Resonance, LC-Mass Spectroscopy and elemental analysis. The synthesized compounds were screened for their antituberculosis activity against *Mycobacterium tuberculosis* H37Rv using the MABA method. Among the tested compounds, (*E*)-*N*-(4-methoxybenzylidene)-5-(pyridin-3-yl)-1,3,4-oxadiazol-2-amine (2e) showed the highest MIC value (3.12 µg/mL). The activities of the newly synthesized Schiff bases were lower in comparison to standard drugs with MIC value Isoniazid (1.6 µg/mL) and pyrazinamide (3.125 µg/mL).

RESUMEN. Para desarrollar fármacos antituberculosos nuevos y eficaces, se ha desarrollado una serie de nuevas bases de Schiff, (*E*)-*N*-(2-ariliden)-5-(piridin-3-il)-1,3,4-oxadiazol-2-amina. (2a-e) se diseñaron y sintetizaron mediante la condensación de 5-(piridin-3-il)-1,3,4-oxadiazol-2-amina (1) y benzaldehídos diversamente sustituidos y caracterización por infrarrojos, ¹H-magnético nuclear. Resonancia, LC-Espectroscopia de Masas y análisis elemental. Los compuestos sintetizados se analizaron para determinar su actividad antituberculosa contra *Mycobacterium tuberculosis* H37Rv utilizando el método MABA. Entre los compuestos probados, (*E*)-*N*-(4-metoxibenciliden)-5-(piridin-3-il)-1,3,4-oxadiazol-2-amina (2e) mostró el valor de CIM más alto (3,12 µg/ mL). Las actividades de las bases de Schiff recién sintetizadas fueron menores en comparación con los fármacos estándar con valor de CMI Isoniazida (1,6 µg/ml) y pirazinamida (3,125 µg/mL).

KEYWORDS: Schiff bases; 1,3,4-oxadiazoles; antituberculosis activity; *M. tuberculosis* H37Rv.

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