

Antimicrobial Activities of 2-(3,5-Dimethoxy-4-methylbenzyl)-5-aryl-1,3,4-oxadiazoles

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SUMMARY. The aim of this study was to evaluate the microwave synthesized 2-(3,5-dimethoxy-4-methylbenzyl)-5-aryl-1,3,4-oxadiazoles (DMAO) scaffold against *B. subtilis*, *E. coli* and yeast cells to identify their new antimicrobial potential. To synthesize DMAO scaffold, 3,5-Dimethoxy-4-methylbenzoylhydrazide was irradiated with substituted benzoic acids in the presence of thionyl chloride. Compound 2 showed maximum inhibition against the bacterial cell while compounds **1**, **5**, **6** and **8** showed maximum inhibition against the fungal cell cultures. New lead compounds were identified to possess potent antimicrobial activities.

RESUMEN. El objetivo de este estudio fue evaluar la actividad de 2-(3,5-dimetoxi-4-metilbencil)-5-aryl-1,3,4-oxadiazoles (DMAO) sintetizados en microondas contra *B. subtilis*, *E. coli* y células de levadura para identificar su potencial antimicrobiano. Para sintetizar DMAOs, el 3,5-dimetoxi-4-methylbenzoylhydrazide se irradió con ácidos benzoicos sustituidos en presencia de cloruro de tionilo. El compuesto 2 mostró una inhibición máxima contra las células bacterianas mientras que los compuestos **1**, **5**, **6** y **8** mostraron una inhibición máxima contra los cultivos de células fúngicas. Se identificaron nuevos compuestos de plomo que poseen actividades antimicrobianas potentes.

KEY WORDS: Antifungal, Antibacterial, Heterocycles, Oxadiazole.

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