

Novel Benzoxazoles: Synthesis and Antibacterial, Antifungal, and Antitubercular Activity against Antibiotic-Resistant and -Sensitive Microbes

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A new series of 5-(*p*-substituted benzamido/phenylacetamido)-2-(*p*-*tert*-butylphenyl)benzoxazole derivatives were synthesized and evaluated for their antibacterial, antifungal, and antimycobacterial activities against antibiotic-resistant and -sensitive *Staphylococcus aureus*, *Enterococcus faecalis*, *Escherichia coli*, *Klebsiella pneumoniae*, and *Mycobacterium tuberculosis* as well as against *Candida albicans* and *Candida krusei*. The compounds possessed broad-spectrum activity against all of the tested Gram-positive and Gram-negative bacteria and yeasts, their minimum inhibitory concentrations (MICs) ranging between 16–128 µg/ml. One compound exhibited significant antibacterial activity (16 µg/ml) against an antibiotic-resistant *Enterococcus faecalis* isolate, having twice the potency of the compared standard drugs vancomycin and gentamycin sulfate. The compounds also showed moderate antitubercular activity with MIC values between 8–128 µg/ml against *Mycobacterium tuberculosis* and its clinical isolate.

Key words: Benzoxazoles, Antibacterial Activity, Antifungal Activity, Antitubercular Activity