Synthesis of Substituted Thioureas and Their Sulfur Heterocyclic Systems of p-Amino Acid as Antimycobacterial Agents

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Abstract

A series of new N,N'-substituted thioureas (2, 6, and 8) and their sulfur heterocycles as thiobarbituric acids (3, 4, and 7), 2-thioxothiazoliodin-4-one (10), thiozolidin-4-one (11), 1,2,4-triazol-5thione (14), and 1,3,4-thiadiazole (15) of p-Amino salicylic acid (PAS) have been synthesized from treatment with dithiocarbazinate (1, 5 and 12) followed by heterocyclization with dimenthyl malonate, chloroacetic acid, and/or trifluoroacetic anhydride. The structures of the newly synthesized compounds were substantiated with IR, H-1, and C-13 NMR spectral data elementary microanalysis. The in vitro antitubercular activity of synthesized compounds against M. tuberculosis strain H37Rv showed moderate-to-good activity.

Keywords

KeyWords Plus: PARA-AMINOSALICYLIC ACID; DRUG-RESISTANT TUBERCULOSIS; PHOTOCHEMICAL PROBE AGENTS; MYCOBACTERIUM-TUBERCULOSIS; ANTITUBERCULOSIS AGENTS; ANTIMICROBIAL AGENTS; DERIVATIVES; INHIBITION; DELIVERY; PAS

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