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## Synthesis and anti-Helicobacter pylori activity of (4-nitro-1-imidazolylmethyl)-1,2,4-triazoles, 1,3,4-thiadiazoles, and 1,3,4-oxadiazoles

Asal FALLAH TAFTI<sup>1</sup>, Tahmineh AKBARZADEH<sup>1</sup>, Parastoo SANIEE<sup>2</sup>,  
Farideh SIAVOSHI<sup>2</sup>, Abbas SHAFIEE<sup>1</sup>, Alireza FOROUMADI<sup>1</sup>

<sup>1</sup>Department of Medicinal Chemistry, Faculty of Pharmacy and Pharmaceutical Sciences Research Center,

Tehran University of Medical Sciences, Tehran, 14176, IRAN

<sup>2</sup>Microbiology Department, Faculty of Sciences, University of Tehran,  
Tehran-IRAN

e-mail: aforoumadi@yahoo.com

**Abstract:** A series of [(4-nitro-1H-imidazol-1-yl)methyl]-1,2,4- triazoles and 1,3,4-thiadiazoles were prepared and evaluated for their activity against sensitive and resistant H. pylori strains. Study of the structure-activity relationship of these series of compounds indicated that the type of nitroimidazole moiety and the pendent group on the heteroaryl analog dramatically impact the anti-H. pylori activity. In triazole series, compound 5d, containing a 4-methyl phenyl group on the triazole ring, was the most potent compound tested against both metronidazole-sensitive and -resistant strains at a concentration of 8  $\mu$ g.

**Key Words:** 4-Nitroimidazole, 1,2,4-triazoles, 1,3,4-thiadiazoles, 1,3,4-oxadiazoles, anti-H. pylori activity

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