Synthesis and *in vitro* Biological Activity of New 4,6-Disubstituted 3(2*H*)-Pyridazinone-acetohydrazide Derivatives

Murat Sukuroglu[a,*], Tijen Onkol[a], Fatma Kaynak Onurdaĵ [b], Gulsen Akalın[c], and M. Fethi ķahin[a]

[a] Gazi University, Faculty of Pharmacy, Department of Pharmaceutical Chemistry, 06330 Ankara, Turkey. Fax: 90-312-2235018. E-mail: mkadir@gazi.edu.tr
[b] Gazi University, Faculty of Pharmacy, Department of Pharmaceutical Microbiology, 06330 Ankara, Turkey
[c] Anadolu University, Faculty of Pharmacy, Department of Biochemistry, Eskisehir, Turkey

* Author for correspondence and reprint requests

Z. Naturforsch. **67c**, 257–265 (2012); received July 6, 2011/February 7, 2012

New 3(2*H*)-pyridazinone derivatives containing a *N*'-benzyliden-acetohydrazide moiety at position 2 were synthesized. The structures of these newly synthesized compounds were confirmed by IR, ^{1}H NMR, and MS data. These compounds were tested for their antibacterial, antifungal, antimycobacterial, and cytotoxic activities. The compounds 2-[4-(4-chlorophenyl)-6-(morpholin-4-yl)-3-oxo-(2*H*)-pyridazin-2-yl]-*N*'-(4-*tert*-butylbenzyliden)acetohydrazide and 2-[4-(4-chlorophenyl)-6-(morpholin-4-yl)-3-oxo-(2*H*)-pyridazin-2-yl]-*N*'-(4-chlorobenzyliden) acetohydrazide exhibited activity against both Gram-positive and Gram-negative bacteria. Most of the compounds were active against *E. coli* ATCC 35218. The preliminary results of this study revealed that some target compounds exhibited promising antimicrobial activities.

Key words: Antimicrobial Activity, Benzyliden-acetohydrazide, Pyridazinone