Antiviral and Antimicrobial Profiles of Selected Isoquinoline Alkaloids from *Fumaria* and *Corydalis* Species

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Z. Naturforsch. **62c**, 19–26 (2007); received July 28, 2006

In the current study, 33 isoquinoline alkaloids belonging to protopine-, benzylisoquinoline-, benzophenanthridine-, spirobenzylisoquinoline-, phthalideisoquinoline-, aporphine-, protoberberine-, cularine-, and isoquinolone-types as well as 7 derivatives of them obtained from some *Fumaria* and *Corydalis* species growing in Turkey have been evaluated for their *in vitro* antiviral and antimicrobial activities. Both DNA virus *Herpes simplex* (HSV) and RNA virus *Parainfluenza* (PI-3) were employed for antiviral assessment of the compounds using Madine-Darby bovine kidney and Vero cell lines and their maximum non-toxic concentrations (MNTC) and cytopathogenic effects (CPE) were determined using acyclovir and oseltamivir as the references. Antibacterial and antifungal activities of the alkaloids were tested against *Escherichia coli*, *Pseudomonas aeruginosa*, *Proteus mirabilis*, *Klebsiella pneumoniae*, *Acinetobacter baumannii*, *Staphylococcus aureus*, *Bacillus subtilis*, and *Candida albicans* by the microdilution method and compared to ampicilline, ofloxacine, and ketocanazole as the references. The alkaloids did not present any notable antibacterial effect, while they had significant antifungal activity at 8 μg/ml concentration. On the other hand, the alkaloids were found to have selective inhibition against the PI-3 virus ranging between 0.5 and 64 μg/ml as minimum and maximum CPE inhibitory concentrations, whereas they were completely inactive towards HSV.

Key words: Isoquinoline Alkaloids, Antiviral Activity, Antimicrobial Activity