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P201. GENOTOXIC PROPERTIES OF SOME N-PHENYLBENZAMIDE AND N-PHENYLACETAMIDE DERIVATIVES

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Benzamide and acetamide derivatives exhibit various types of biological properties such as antihelmentic, antihistaminic, antifungal, antibacterial and anticancer. We previously synthesized 12 N-phenyl benzamid and N-phenylacetamide derivatives which might have anticancer activity on account of their heterocyclic structure and evaluated anticancer activity on cancer cells. They exhibited significant cytotoxic activity on HeLa cells. However, it is well known that genotoxicity posed by chemotherapy is a major concern since it induces DNA damage and instability in the patients' genome. Therefore, the genotoxic properties of this series were investigated by a prokaryotic and an eukaryotic test systems in this study.

Due to the fact that each genotoxicity tests are based on different cellular mechanism, genotoxic potentials of chemicals should be assessed with battery test systems. Therefore, we performed alkaline Comet assay on L929 cells and microplate technique of Bacillus subtilis spore Rec assay. All determinations were made in triplicate. Results were evaluated with T-test and S-probit analyze for comet assay and rec assay, respectively with the confidence interval 95-99%.

According to the results, only two compounds (c-8 and c-11) exhibited genotoxic activity and 7 compounds had no genotoxic potentials at both tests. However, the results of both genotoxicity tests for 3 compounds (c-5, c-6, c11) were not parallel. Though their genotoxic potential should be tested with other assays, compounds founded non-genotoxic for both tests in this study are promising for their anticancer activity.

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