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## P14. MUTAGENIC ACTIVITY OF 4 NEWLY SYNTHESIZED HETEROCYCLIC COMPOUNDS

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Heterocyclic compounds, structurally similar to natural biochemical molecules, are usually used for the anticancer drug design. Since they can interact with DNA, they are able to show mutagenic or genotoxic effects. They show their anticancer effects by inhibiting cell proliferation and inducing apoptosis. The first step to select effective compounds is using simple, rapid and inexpensive in vitro tests. Although there are several mutagenicity and genotoxicity tests for this purpose, Ames test is the main mutagenicity test that can be carried out in many laboratories.

In our study, we have evaluated mutagenic activities of 4 new benzothiazole derivatives,which are bicylic heterocyclic compounds. Ames mutagenicity test has been used, based on the method of Maron and Ames. In the experiments, *Salmonella typhimurium* TA98 strain was used to detect for frameshift mutagens and *S. typhimurium* TA100 strain was used to detect for base-pair substitution mutagens. In addition, the mutagenic potentials of metabolites of the compounds were evaluated by adding metabolic activation system, S9 mix. All determinations were made in triplicate. Results were evaluated with Student's-T test with the confidence interval 95-99%.

According to the results of plate incorporation test, in the absence of the metabolic activation system only 1 numbered compound (50 µg/plate) showed mutagenic effects on *S. typhimurium* TA98. All of the other tested compounds did not exhibit any mutagenic effects on TA98 and TA100 strains in the presence and absence of S9 mix.