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P16. MUTAGENIC ACTIVITY OF SOME BENZOTHIAZOLE DERIVATIVES

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Design of new anticancer prodrugs is important source to the development of antitumoral agents that can be effective on resistant cancer cell types and have fewer side effects. The first step is to select effective compounds by 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 studied 5 new benzothiazole derivatives, which are bicylic heterocyclic compounds. These compounds were taken advantages of some mainful characteristics like showing mutagenic effects, causing aneuploidy in chromosomes, inducing apoptosis and inhibiting cell proliferation. Thanks to their such kinds of features, benzothiazole derivates are used in the synthesis of anticancer drugs. To evaluate mutagenic potentials of compounds Ames mutagenicity test, and plate incorporation assay, have been used based on the method of Maron and Ames. We used *salmonella typhimirium* TA98 and TA100 strain in the test system. Also metabolic activation system (S9 fractions) was added for the evaluation of mutagenic potential of metabolites of the compounds. All determinations were made in triplicate. Results were evaluated with Student's-T test with the confidence interval 95-99%.
According to the assay results, in the absence of the metabolic activation system 5 (50 and 75 µg/plate), 6 (50-150 µg/plate) numbered compounds showed mutagenic effects on *S. typhimurium* TA98 while they have no mutagenic potentials in *S. typhimurium* TA100 strain. None of the tested compounds showed mutagenic effect in the presence of the metabolic activation system.