

Thesis Title      Mutagenic tests of stevioside and steviol

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#### ABSTRACT

The mutagenicity of stevioside, a constituent of Stevia rebaudiana, and steviol, the aglycone of stevioside, was determined by Ames' test using TA 98 and TA 100 and forward mutation test using TM 677 tester strain of S.typhimurium. No mutagenic activity of stevioside (at a concentration as high as 20 mg/plate) by using both TA 98 and TA 100 with and without S-9 fractions from livers of rats, mice, hamsters, guinea pig and rabbits treated with polychlorinated biphenyl (PCB) was detected. Additionally, stevioside (20 mg/ml) could not induce mutation in forward mutation using TM 677 with and without S-9 fractions from livers of the rats treated with PCB. However, the mutagenic activity of steviol (0.1-5 mg/ml) was detected only in forward mutation test using TM 677, when

evaluated in the presence of S-9 fractions from livers of all animal species including rats, mice, guinea pigs, hamsters and rabbits. but not in Ames' test using TA 98 and TA 100. It is therefore demonstrated that steviol has to be metabolized to active metabolite which is capable of inducing mutation in only forward mutation test.