Thesis Title Teratogenic Test of Steviol in the Hamster.

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ABSTRACT

This study aimed to investigate the teratogenicity of steviol which is a major metabolite of stevioside, a sweetening agent. Groups of 12-20 pregnant Syrian golden hamsters were treated daily with 0, 250, 500, 750 and 1000 mg steviol/kg BW/day in corn oil by oral intubation from day 6 to day10 of gestation and were sacrificed on day 14. A positive control group received 600 mg/kg BW/day of retinol palmitate (all *trans*) in a similar manner of treatment. Steviol at doses of 750 and 1000 mg/kg BW/day were highly toxic to both dams and fetuses. Significantly decreased of maternal body-weight gain during treatment period (days 6-14) and high percentage of maternal mortality indicated the general toxicity of these two high doses to maternal. Number of live fetus/litter and mean fetal weight also significantly decreased in the steviol-treated at doses of 750 and 1000 mg/kg BW day. The animal treated with intermediate dose (500 mg/kg BW/day) exhibited less signs of maternal toxic and embryotoxic than those two high doses. One craniomeningocele was found in a fetus under the maternal toxic condition in steviol-treated at a dose of

750 mg/kg BW/day. Neither the skeleton nor visceral of the offspring was affected by steviol treatment. No dose-related teratogenesis was detected either. From the result of the present study concerning about maternal toxic condition and embryotoxicity, an oral dose of 250 mg steviol/kg BW/day is regarded as a no observable effect dose. This steviol-treated dose is approximately derived from stevioside 625 mg/kg BW/day which is approximately 80 times higher than the suggested acceptable daily intake of stevioside for human (7.938 mg/kg BW/day).