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KEY WORD : *DROSOPHILA MELANOGASTER* / EMMENAGOGUE /
NITRITE / SOMATIC MUTATION AND RECOMBINATION TEST

HATAITIP SROYSA-ARD : GENOTOXICITY TESTING OF
EMMENAGOGUES WITH AND WITHOUT NITRITE USING THE WING
SOMATIC MUTATION AND RECOMBINATION TEST (SMART) IN
DROSOPHILA MELANOGASTER. THESIS ADVISOR KAEW
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Eight emmenagogue drugs were assayed for their genotoxicity in the wing somatic mutation and recombination test (SMART) using *Drosophila melanogaster*. Larvae trans-heterozygous of the standard (ST) cross (*flr*³/*TM3*, *Ser* females and *mwh* males) and those of the improved high bioactivation (IHB) cross (*ORR;flr*³/*TM3*, *Ser* females and *mwh* males) were fed with each drug for 48 hours. In addition sodium nitrite was administered simultaneously with two selected drugs to the flies in order to reveal whether the toxicity was increased. The wings hairs of the survived flies were analyzed for the frequency and size of single and twin spots.

The results showed that emmenagogue had some potential to induce gene mutations in cells of the larval wing discs or somatic cells. Three drugs were genotoxic on both ST and IHB crosses. One drug was genotoxic only on the ST cross. Four drugs were inconclusive with ST cross but genotoxic on the IHB cross. The mutagenicity of the two selected drugs was increased when sodium nitrite was co-administered to the test organism. The results suggested that some drugs contained both mutagens and nitrite treatable mutagen precursors depending on the composition of the recipes.