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## Toxicogenetic evaluation of *Styrax camporum* extract, lignans egonol and homoegonol using the comet and micronucleus assays

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The genus *Styrax* is the most important representative of Styracaceae family and the species *Styrax camporum* is popularly found in Brazil. Ethnopharmacological data show the use of *S. camporum* for treating gastric disorders. The benzofuran lignans egonol and homoegonol are found in all species of *Styrax*, being regarded as phytochemical markers for the quality control of extracts of this genus. The present study investigated the genotoxic potential of *S. camporum* hydroalcoholic extract and the lignans egonol and homoegonol in Chinese hamster lung fibroblasts (V79 cells) by comet and micronucleus assays. The cultures were treated with *S. camporum* hydroalcoholic extract (5, 10, 20, 40 and 60 µg/mL), egonol (0.26 µg/mL), homoegonol (0.017 µg/mL) and the association of egonol plus homoegonol. The results showed that the cultures treated with the highest concentration of extract (60 µg/mL) showed significant increases in the frequencies of DNA damage and micronuclei when compared with the negative control group. No significant differences were observed in the frequencies of DNA damage and micronuclei in cell cultures treated with egonol or homoegonol in relation to negative control cultures. However, the treatment with egonol plus homoegonol led to a statistically significant increase in the DNA damage and micronuclei frequencies. Thus, under the present experimental conditions, the *S. camporum* extract demonstrated genotoxicity in the highest concentration tested. This effect can be attributed to the presence of benzofuran lignans, egonol and homoegonol, which together may be the substances responsible for the genotoxicity displayed by the extract.

### Biography

Denise Crispim Tavares has completed her PhD at the age of 28 years from University of São Paulo, Brazil, and postdoctoral studies from Georgetown University, United States. She is a researcher at the University of Franca, São Paulo, Brazil. She has published papers in reputed journals and serving as an editorial board member of a mutagenesis reputed journal.

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