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The effect of aspartame administration on oncogene and suppressor gene expressions.

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BACKGROUND: Aspartame (L-phenylalanine N-L-alpha-aspartyl-1-methyl ester) is an artificial sweetener with widespread applications. Previously published results have shown that among rats receiving aspartame a significant increase of lymphoreticular neoplasms, brain tumours and transitional cell tumours occurred. The aim of our short-term experiment was to investigate the biological effect of aspartame consumption by determining the expressions of key oncogenes and a tumour suppressor gene. **MATERIALS AND METHODS:** After one week per os administration of various doses of aspartame to CBA/CA female mice, p53, c-myc, Ha-ras gene expression alterations were determined in individual organs. **RESULTS:** The results showed an increase in gene expressions concerning all the investigated genes especially in organs with a high proliferation rate: lymphoreticular organs, bone-marrow and kidney. **CONCLUSION:** Aspartame has a biological effect even at the recommended daily maximum dose.

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