

Abstract

Anticarcinogenic activity of astaxanthin-containing egg yolk (designate AEY) was investigated for mouse ascites carcinogenesis induced by mouse Sarcoma-180 (S-180) cells. Female ICR mice (8 mice/treatment, 7-8 weeks of age, 25 ± 1 g) were injected, i.p. with S-180 cells (1×10^7 cell/ml PBS). Two days later, each mouse was given 0.1ml PBS containing AEY (10, 25 or 50 μ g/g body weight) or control egg yolk (CEY; 50 μ g/g body weight) every other day for 7 times. Control mice were only given 0.1ml S-180 cells and 0.1ml PBS. Mice treated with 25 μ g/g body weight of AEY showed 24.8 days of life, which was equivalent to 138% of control mice's life (18.0 days). Based on dose-dependant experiment of AEY, mice treated with 10 μ g/g body weight showed slightly longer life (19.4 days) relative to mice treated with control mice, and mice treated with 50 μ g/g body weight exhibited 21.9 days of life. Mice treated with any dose of AEY exhibited longer life than mice with CEY 50 μ g/g body weight. Body weight of mice treated with AEY was reduced relative to that of control mice or CEY-treated mice. These results suggest that AEY inhibits the carcinogenesis of mouse ascites induced by S-180 cells.

Key words: astaxanthin-containing egg yolk, Sarcoma-180, ascites carcinogenesis

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