

عنوان مقاله:

Phycocyanin C a Natural Product with Impressive Therapeutic Efficacy for Inhibition of Breast Tumors' Growth and Metastasis in Vivo

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خلاصه مقاله:

Background: Several studies have reported the anticancer effect of phycocyanin C, a natural extract isolated from the algae *Arthrospira platensis*. However, its therapeutic effects on the growth of breast cancer and its metastasis have not been determined yet. **Method:** In this case-control study, we employed phycocyanin C for the treatment of 4T1 breast tumor as an applicable experimental animal model for human mammary cancer and metastasis. BALB/c mice were injected subcutaneously (s.c) into the 4th abdominal mammary fat pad with 1×10^6 4T1 cells. We randomly divided the mice into two groups; one group of mice were injected with PBS as the control, and the other group was intraperitoneally injected with phycocyanin C (80 mg/kg daily for 20 days). Tumor growth and metastasis were assessed in both groups. **Results:** Phycocyanin C significantly inhibited 4T1 breast tumors growth ($P < 0.05$). The mean tumors volumes at the control group were 2.73 times higher than those of the treatment group. In addition, phycocyanin C treatment could significantly inhibit the formation of metastasis colonies at vital organs like spleen, liver, and lung. Moreover, the survival rate of the tumor-bearing mice increased after about 22 days by phycocyanin C treatment in comparison with the control. **Conclusion:** This is the first report demonstrating the anticancer effects of phycocyanin C on 4T1 breast tumor in vivo. Overall, our findings provided convincing evidence for the application of phycocyanin C as an anticancer therapeutic agent.

کلمات کلیدی:

Phycocyanin C, Breast Neoplasm, Metastasis

