



## **Ascorbate Depletion Increases Growth and Metastasis of Melanoma Cells in Vitamin C Deficient Mice**

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*Experimental Oncology 2011, 33(4):1-5*

This in vivo study was on a special type of mouse model. Just like humans, these mice do not produce their own vitamin C, and they were therefore the best model to study how dietary supplementation with vitamin C would alter the growth and spread of induced cancer cells.

Our results indicate that vitamin C significantly impaired the growth of cancer cells in the mice given dietary vitamin C supplementation as opposed to the control group that did not receive vitamin C. The tumors in the vitamin C supplemented mice were 64% smaller than the tumors developed in the control group. Microscopic examination of the tumors in the group supplemented with vitamin C showed that they were surrounded by denser collagen fibers and were well capsulated indicating reduced potential for metastasis. The mice that did not receive dietary vitamin C developed larger tumors and the borders were poorly defined with actively multiplying cells.

Moreover, the markers of inflammation like interleukin-6 and interleukin-1 $\beta$  were profoundly decreased (90% and 62%, respectively) in the vitamin C supplemented mice as compared to the control group.