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# Antineoplastic Effects of *Rhodiola crenulata* on B16F10 Melanomas

Maxine Dudek

*University of Massachusetts Amherst*

Richard B. Arenas


*University of Massachusetts Amherst*

Kaityln Wong

*University of Massachusetts Amherst*

*See next page for additional authors*

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**Presenter Information**

Maxine Dudek, Richard B. Arenas, Kaityln Wong, Carmen Mora, Lotfi M. Bassa, and Sallie S. Schneider

**Comments**

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Antineoplastic Effects of *Rhodiola crenulata* on B16F10 Melanomas  
Maxine Dudek, Dr. Richard B. Arenas, Dr. Kaityln Wong, Dr. Carmen Mora, Lotfi Bassa,  
and Dr. Sallie S. Schneider  
University of Massachusetts at Amherst and Baystate Medical Center  
[Mdudek91@gmail.com](mailto:Mdudek91@gmail.com) (413) 636-2319

### **Abstract**

#### **Hypothesis:**

Rhodiola crenulata extract is derived from Tibetan plant's roots and has been shown to have anti-cancer properties. Previously, we have shown that Rhodiola extract has toxic effects on B16 F10 mouse melanoma cells in vitro. The purpose of this project was to determine if a daily topical application of Rhodiola extract on melanoma tumors in mice leads to a reduction in tumor size and improved survival.

#### **Methods:**

$1 \times 10^6$  B16F10 melanoma cells were subcutaneously injected above the scapular fat pad in C57/BL6 mice. Rhodiola extract was dissolved in a 10% DMSO Eucerine based cream. Twenty-four hours following tumor implantation, daily topical Rhodiola treatment began. Tumor volume measurements began on the fifth day of therapy and were measured daily thereafter.

#### **Results:**

Tumors treated with the topical Rhodiola cream tended to grow more radially, rather than vertically when compared to vehicle control. Mice treated with the vehicle control reached a tumor volume of  $500\text{mm}^3$  in 10 days, whereas mice treated with the 5% and 10% Rhodiola reached a tumor volume of  $500\text{mm}^3$  in 11 and 15 days respectively. All mice treated with vehicle control met requirements for euthanasia by day 14. In contrast, mice treated with the 5% Rhodiola met requirements for euthanasia by day 15 except for one mouse who exhibited tumor regression and survived for over 30 days. All mice treated with the 10% Rhodiola cream met requirements for euthanasia by day 20.

#### **Conclusion:**

Although analysis from our experiment is still in progress, we have observed a gross difference in tumors of mice treated with topical application of Rhodiola cream in comparison with mice treated with a topical application of a vehicle control cream. Future work will focus on histological evaluation of harvested tumors to determine microscopic differences in tumor characteristics.