



A service of the [U.S. National Library of Medicine](#)  
and the [National Institutes of Health](#)

Select **19496785**

---

1: [Cancer Sci.](#) 2009 May 12. [Epub ahead of print]



**Resveratrol and quercetin cooperate to induce senescence-like growth arrest in C6 rat glioma cells.**

[Zamin LL](#), [Filippi-Chiela EC](#), [Dillenburg-Pilla P](#), [Horn F](#), [Salbego C](#), [Lenz G](#).

Biophysics Department, Universidade Federal do Rio Grande do Sul (UFRGS), Porto Alegre, Brazil.

Glioma is the most frequent and malignant primary human brain tumor with dismal prognosis despite multimodal therapy. Resveratrol and quercetin, two structurally related and naturally occurring polyphenols, are proposed to have anticancer effects. We report here that resveratrol and quercetin decreased the cell number in four glioma cell lines but not in rat astrocytes. Low doses of resveratrol (10 microM) or quercetin (25 microM) separately had no effect on apoptosis induction, but had a strong effect on caspase 3/7 activation when administered together. Western blot analyses showed that resveratrol (10 microM) and quercetin (25 microM) caused a reduction in phosphorylation of Akt, but this reduction was not sufficient by itself to mediate the effects of these polyphenols. Most important, resveratrol and quercetin chronically administered presented a strong synergism in inducing senescence-like growth arrest. These results suggest that the combination of polyphenols can potentialize their antitumoral activity, thereby reducing the therapeutic concentration needed for glioma treatment. (Cancer Sci 2009).

PMID: 19496785 [PubMed - as supplied by publisher]

---