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Resumo	Background: Gliomas are aggressive and resilient tumors. Progression to advanced stages of malignancy, characterized by cell anaplasia, necrosis, and reduced response to conventional surgery or therapeutic adjuvant, are critical challenges in glioma therapy. Relapse of the disease poses a considerable challenge for management. Hence, new compounds are required to improve therapeutic response. As hydrolyzed rutin (HR), a compound modified via rutin deglycosylation, as well as some flavonoids demonstrated antiproliferative effect for glioblastoma, these are considered potential epigenetic drugs. Objective: The purpose of this study was to determine the antitumor activity and evaluate the potential for modifying tumor aggressivity of rutin hydrolysates for treating both primary and relapsed glioblastoma. Methods: The glioblastoma cell line, U251, was used for analyzing cell cycle inhibition and apoptosis and for establishing the GBM mouse model. Mice with GBM were treated with HR to verify antitumor activity. Histological analysis was used to evaluate HR interference in aggressive behavior and glioma grade. Immunohistochemistry, comet assay, and thiobarbituric acid reactive substance (TBARS) values were used to evaluate the mechanism of HR action. Results: HR is an antiproliferative and antitumoral compound that inhibits the cell cycle via a p53- independent pathway. HR reduces tumor growth and aggression, mainly by decreasing mitosis and necrosis rates without genotoxicity, which is suggestive of epigenetic modulation.

	Conclusion: HR possesses antitumor activity and decreases anaplasia in glioblastoma, inhibiting progression to malignant stages of the disease. HR can improve the effectiveness of response to conventional therapy, which has a crucial role in recurrent glioma.
Fomento	