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## Brazilian natural compound FLAV5: A promising anticancer drug

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The high morbidity caused by cancer has required finding urgently new drugs, which can act more selectively on the cell death mechanisms. Since ancient times, plants appear as potential drugs in chemotherapy against cancer. Several native Brazilian plant species used in traditional medicine contain compounds that exhibit a broad range of therapeutic efficacy, including antitumoral activity. *Arrabidaea brachypoda* is a Brazilian Cerrado species widely used in traditional medicine in Southeastern and Northeastern Brazil for kidney stones and painful joints. Its chemical profile is rich in flavonoids, compounds that present considerable scientific and therapeutic interest, being involved in the prevention of tumors and neurodegeneration. Considering these aspects, the aim of this study was to evaluate the antiproliferative activity of FLAV5 flavonoid in a panel of tumor cell lines representative of different organs and subsequently investigate the activity of this compound in the process of migration and replication of tumor cells, as well as identify its mechanism of action. The FLAV5 compound presented cytotoxic activity for the assessed tumor cell lines, being glioblastoma (U251) the most sensitive line. This compound was able to inhibit U251 cells migration, considering that after 48h of treatment only 27% of the scratch width was closed (vs. 95% control). Furthermore, FLAV5 reduced by 82% the number of colonies formed. Mechanism of action assays suggest that FLAV5 is leading tumor cells to death by inducing DNA damage. The investigation of cell signalling is being determined through western blotting technique.

### Biography

Giovanna Barbarini Longato has completed her PhD at State University of Campinas-Brazil (2014) and her Post-doctoral studies at Barretos Cancer Hospital, Brazil (2015). She is a Professor at the Health Science Post-graduate program of San Francisco University-Brazil. She has experience in the area of Natural Products and Cancer and working mainly on the following subjects: Chemical and biological characterization of isolated compounds of vegetal species as well as synthesized, modified or biotransformed molecules; In vitro and in vivo antitumor activity assays; Determination of the mechanism of action of natural compounds and; Study of signaling pathways of cell death processes and pre-clinical toxicological tests of natural products.

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