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| Resumo | <p>Glioblastoma (GBM) is the most frequent and highest-grade brain tumor in adults. The prognosis is still poor despite the use of combined therapy involving maximal surgical resection, radiotherapy, and chemotherapy. The development of more efficient drugs without noticeable side effects is urgent. Coronarín D is a diterpene obtained from the rhizome extract of <i>Hedychium coronarium</i>, classified as a labdane with several biological activities, principally anticancer potential. The aim of the present study was to determine the anti-cancer properties of Coronarín D in the glioblastoma cell line and further elucidate the underlying molecular mechanisms. Coronarín D potently suppressed cell viability in glioblastoma U-251 cell line, and also induced G1 arrest by reducing p21 protein and histone H2AX phosphorylation, leading to DNA damage and apoptosis. Further studies showed that Coronarín D increased the production of reactive oxygen species, lead to mitochondrial membrane potential depolarization, and subsequently activated caspases and ERK phosphorylation, major mechanisms involved in apoptosis. To our knowledge, this is the first analysis referring to this compound on the glioma cell line. These findings highlight the antiproliferative activity of Coronarín D against glioblastoma cell line U-251 and provide a basis for further investigation on its antineoplastic activity on brain câncer.</p> |
| Fomento | |