Cancer remains one of the leading global causes of death, representing a worldwide concern due to its high incidence and mortality rates. The search for natural molecules with antitumor activity has been a significant area of interest in cancer research. Particularly, compounds derived from plants have demonstrated potential in inhibiting tumor growth and inducing programmed cell death, making them promising candidates for the development of new anticancer therapies. In this context, the botanical genus Plectranthus spp. has emerged as a crucial source of prototype natural molecules in cancer research.

Compounds with an abietane skeleton, such as 7α-acetoxy-6β-hidroxiroleanona (Roy), 6,7-desidroiroleanona (DeRoy), 6β,7α-dihydroxyroleanone (DiRoy), and Parvifloron D (ParvD), have shown antiproliferative activity in various cancer cell lines, including leukemia (CCRF-CEM), lung adenocarcinoma (A549), and glioblastoma (H7PX). These compounds exhibited cytotoxicity within the concentration range of 0-100 µg/mL and induced apoptosis by regulating pro and antiapoptotic genes. Remarkably, Roy and ParvD were the most active in CCRF-CEM and A549 cell lines, impacting mitochondrial membrane potential and ROS levels. Roy caused increased nuclear DNA damage in A549 cells, while ParvD increased mtDNA damage in CCRF-CEM cells. The compound displayed cytotoxic activity against glioblastoma, inducing apoptosis through the intrinsic mitochondrial pathway and disrupting the G2/M cell cycle. Its antitumor efficacy surpassed that of the first-line treatment temozolomide in glioblastoma and showed potential against triple-negative breast cancer, reducing cell viability, inducing
apoptosis, and inhibiting cell migration and invasion, indicating potential anti-metastatic effects [1].

A recent study focused on compounds isolated from the acetonic extract of *P. hadiensis* stems, a plant used in the treatment of brain tumors. Different abietane-type diterpenes, such as Roy and DiRoy, were identified, and their antiproliferative activity was evaluated in glioma cell lines. Roy demonstrated strong antiproliferative and cytotoxic effects against tumor cells, with low IC50 values in various cell lines. Additionally, a new fluorescence derivative, BODIPY-Roy, confirmed the increased intracellular fluorescence associated with Roy's antiproliferative activity, suggesting its potential as a basis for the development of new therapeutic strategies against glioblastoma [1,2].

**Keywords:** Natural Products; Plectranthus; diterpenoids; glioblastoma
REFERENCES
