Cytotoxic and antioxidant activity of two diterpenes- type abietane from essential oil *Tetradenia riparia* (Hochst.) leaves

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Tetradenia riparia (Hochstetter) Codd belongs to the Lamiaceae family and was introduced in Brazil as an exotic ornamental plant. The samples for this work were collected in Umuarama, state of Paraná, Brazil. A voucher specimen is deposited at the UNIPAR Herbarium (No 2502). The essential oil was extracted from the fresh leaves by hydrodistillation. Two grams of essential oil was submitted to column chromatography over a silica gel support and eluted with pentane, pentane–dichloromethane (9:1; 8:2; 7:3 and 1:1), dichloromethane–pentane (3:7); dichloromethane, dichloromethane–methanol (9:1; 7:3 and 1:1) and methanol, resulting in 29 fractions. Fractions 16 (6.6 mg) and 17 (11.7 mg) were identified by 1H, 13C, DEPT, HSQC, HMBC and NOESY NMR techniques, and by comparison with literature data (1). Compound in fraction 16 was elucidated as the new compound 9β,13β-epoxy-7-abietene (**1**), an amorphous white solid with GC retention time 33.78 min. EI, *m/z* (rel. int.): 288 [M]+ (20), 161(100). Compound in fraction 17 was identified as 6,7-didehydroroyleanone (**2**), already described by Kusumoto (2). The cytotoxic activities of the essential oil and compounds **1** and **2** were determined by a 3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyl-2H-tetrazolium bromide (MTT) assay, and by tumor cells MDA-MB- 435 (human breast carcinoma), HCT-8 (human colon), SF-295 (human nervous system) and HL-60 (human promyelocytic leukemia). The essential oil and compound **1** showed high cytotoxic potential of the cell lines SF-295 (78.06 % and 94.80 %, respectively), HCT-8 (85.00 % and 86.54 %, respectively) and MDA- MB-435 (59.48 % and 45.43 %, respectively). Compound **2** had no cytotoxic activity. The antioxidant activity was determined by 2, 2- diphenyl-1-picryl-hydrazyl (DPPH), β-carotene- linoleic acid system and 2,2'-azinobis-(3- ethylbenzothiazoline- 6- sulfonic acid) (ABTS) assays. The inhibitory concentration (IC50 in μg mL^{-1}) for essential oil and compound **2** was, respectively, 15.63 and 0.01 for DPPH; 130.1 and 109.6 for β-carotene-linoleic acid and 1524 and 1024 for ABTS. Compound **1** had no antioxidant activity. By fractioning the oil, it was possible to identify compounds **1** and **2,** and shows that **1** has a high cytotoxic potential, and **2,** a high antioxidant potential.

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