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Cytotoxic apo-and tirucallane-type triterpenoids from *Walsuratrichostemon*

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Walsuratrichostemon Miq. is a naturally distributed in the evergreen forest throughout Southeast Asia, including countries such as Myanmar, Cambodia and Thailand (in North, Northeast and Southeastern). *W. trichostemon* is also used in Thai traditional medicine to treat tendon disabilities, as a staunch, for cleaning wounds, as well as a treatment for hemorrhoids. In our continuing search for new anticancer agents from *W. trichostemon*, we report herein the isolation of six new cytotoxic apo- and tirucallane-type triterpenoids, trichostemonate (1), 11, 25-dideacetyltrichostemonate (2), 21, 24, 25-triacetyl-7-deacetyl-6-hydroxybrujavanone E (3), 7-deacetylbrujavanone E (4), trichostemonol (5) and trichostemonoate (6) along with seven known triterpenoids, friedelanone (7), β -sitosterol (8), melianone (9), 11 α , 20-dihydroxydammar-24-ene-3-one (10), sapelin E acetate (11), grandifolinolenone (12) and β -sitosterolglucoside (13) were isolated from the roots, leaves, twigs and stem bark of this plant. The structures of all isolated compounds were identified by interpretation of their spectroscopic data, as well as by comparison with those reported in the literature. In addition, the cytotoxicity of all isolated compounds (1-13) against two tumor cell lines (KB and HeLa) was also evaluated. Compounds 1 and 10 showed significant cytotoxicity against both KB and HeLa cells (IC_{50} 0.93, 2.03 and 1.86 μ g/mL, respectively) in the *invitro* tumor cell panel. Compound 5 was displayed the potent cytotoxicity against only HeLa cells (IC_{50} 3.79 μ g/mL), while compound 2 showed significant cytotoxicity against KB cells (IC_{50} 3.95 μ g/mL). Adriamycin was used as the reference substance (IC_{50} values of 0.05 μ g/mL for KB cells and 0.17 μ g/mL for HeLa cells).

Biography

Jirapast Sichaem has completed his PhD at the age of 26 years from Chulalongkorn University. He is doing Postdoctoral studies in the field of cytotoxic compounds from Thai medicinal plants at Natural Products Research Unit, Department of Chemistry, Faculty of Science, Chulalongkorn University. He has published more than 20 papers in scientific journals.

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