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信宜润楠的化学成分研究

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中文摘要:通过萃取、正相硅胶、Sephadex LH-20、闪式柱色谱以及反相HPLC柱色谱等多种分离方法相结合,从信宜润楠乙醇提物中首次分离得到21个化合物;借助红外、质谱和核磁共振等波谱学分析方法鉴定了它们的结构,其中包括8个丁内酯类(1~8)、8个木脂素类(9~16)和5个萜类化合物(17~21)。化合物 16 是降七碳木脂烷类新天然产物。经体外活性筛选发现化合物 5 对胃癌(BGC-823)和卵巢癌(A2780)人肿瘤细胞株有选择性抑制活性,IC_{50}分别为0.13×10^{-6}、2.66×10^{-6} mol·L^{-1};在1×10^{-5} mol·L^{-1}时,化合物 8 和 9 具有明显抑制PAF刺激大鼠多形核白细胞β-葡萄糖苷酸酶释放作用,抑制率分别为60.0%,54.2%。

中文关键词:信宜润楠 丁内酯 木脂素 萜类 抑制胃癌(BGC-823)和卵巢癌(A2780)人肿瘤细胞活性 抑制β-葡萄糖苷酸酶释放

Chemical constituents from *Machilus wangchiana*

Abstract: Twenty-one compounds were isolated from an ethanol extract of *Machilus wangchiana* by a combination of various chromatographic techniques including column chromatography over silica gel and Sephadex LH-20 and reversed-phase HPLC. Their structures were identified by spectroscopic data analysis including optical rotation, UV, IR, MS, and NMR data. The compounds are categorized as eight butanolides (1-8), eight lignans (9-16), and five terpenoids (17-21). Compound 16 is a new natural product with an uncommon heptanorlignan skeleton. Meanwhile, the unique *Ginkgo biloba* (maidenhair) metabolites ginkgolides A (19) and ginkgolides B (20) were obtained from this material. In the preliminary assays, compound 5 showed selective inhibitory activities against human stomach cancer cells (BGC-823) and ovary cancer cells (A2780) with IC_{50} values of 0.13×10^{-6} and 2.66×10^{-6} mol·L^{-1}, respectively. Compounds 8 and 9 , at 1×10^{-5} mol·L^{-1}, showed inhibitory activities against the release of β-glucuronidase of the polymorphous nuclear leukocytes induced by platelet activating factor (PAF), with inhibition rates of 60.0% and 54.2%.

keywords: *Machilus wangchiana* butanolide lignans terpenoids cytotoxicity inhibitory activity of β-glucuronidase release

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