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Cucurbitane triterpenoids derived from *Momordica charantia* inhibit proliferation of vascular smooth muscle cells

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The plant *M. charantia* L., called "bitter melon" is widely cultivated in Asian countries. It is commonly used as a vegetable and medicine. The extract of the fruit of this plant was shown to posses anti-helmintic, antibacterial, antifertility, antidiabetic, as well as antiproliferative activities. The aim of this study was to identify the unreported six new cucurbitane-type triterpenoids from the fruits of *M. charantia*, utilizing diverse chromatographic and spectroscopic techniques. In particular, the 2D structure of **1** was confirmed utilizing the long-range HSQMBC NMR pulse, capable of measuring heteronuclear long-range correlations ($^{4\text{-}6}J_{CH}$). The cucurbitanes were also assessed for their inhibitory activity against Platelet-derived growth factor (PDGF)-induced Vascular smooth muscle cells (VSMC) proliferation. In particular, **2** and **4** at 10 μM curbed the VSMC proliferation by 72.4% and 67.9%, respectively, demonstrating significant inhibitory activity among the tested phytochemicals. This study may constitute a basis for developing those chemotypes into sensible pharmacophores alleviating cardiovascular disorders.

Biography

DaYoung Kim is a Graduate from the Department of Chemistry at Mokwon University, South Korea. She works at the Pharmacognosy Laboratory of the Colloge of Pharmacy, Chungnam National University, South Korea. She has recently published a paper in *Korean Journal of Aesthetics* and *Cosmetology*.

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