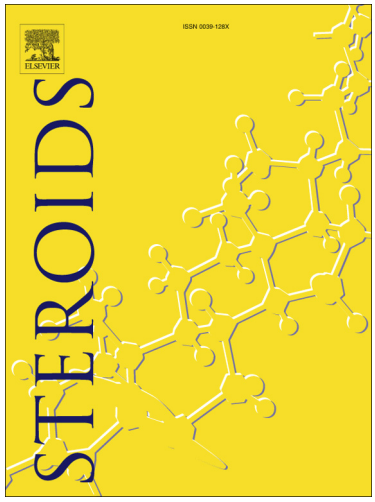

Non-protein amino acid derivatives of 25-methoxylprotopanaxadiol/25-hydroxyprotopanaxadioland their anti-tumour activity evaluation

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Non-protein amino acid derivatives of 25-methoxylprotopanaxadiol/25-hydroxyprotopanaxadioland their anti-tumour activity evaluation

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ABSTRACT

Abstract
As active components of ginseng, 25-methoxylprotopanaxadiol and 25-hydroxyprotopanaxadiol exhibited an ability to inhibit the growth and proliferation or to induce the differentiation and apoptosis of tumour cells. We modified 25-OCH_3-PPD and 25-OH-PPD with non-protein amino acids and a series of derivatives was obtained by chromatographic separation, purification and spectroscopy analysis. Thirteen derivatives of 25-OCH_3-PPD (compounds 1–13) and 12 derivatives of 25-OH-PPD (compounds 14–25) were synthesised. The anti-cancer activities of the derivatives were evaluated on HCT-116 and BGC-823 cell lines by MTT assay. Compound 9 and compound 14 exhibited considerable anti-tumour activity for HCT-116 and BGC-823 cell lines, exhibited higher cytotoxic activity than 25-OCH_3-PPD and 25-OH-PPD. Therefore, these ginsenoside derivatives could be used as potential lead for the development of a new type of anticancer agent.

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