

论文

中药青黛中几种微量成分的研究—— I .吲哚并[2,1b]喹唑啉-6,12-二酮和青黛酮的分离、结构鉴定及合成

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摘要:

从青黛的亲脂部分除去两个主要成分靛兰(I)及靛玉红(II)后,分得8个微量成分(III~X,含量 $3.3 \times 10^{-5} \sim 4.2 \times 10^{-4}$ %)。经物理常数的测定、光谱分析及化学合成鉴定了成分III为吲哚并[2,1 b]喹唑啉-6,12-二酮(tryptanthrin)、成分IV的结构为6-吲哚-吲哚并[2,1b]喹唑啉酮-12。IV是首次从天然物中分离出来和确定结构的,命名为青黛酮(qingdainone)。成分V~X的结构尚在证实中。经初步筛选,发现III及IV均对黑色素瘤B₁₆有抑制作用,IV对小鼠Lewis肺癌有抑制作用。

关键词: 青黛 抗肿瘤活性成分 吲哚并[2,1b]喹唑啉-6,12-二酮 6-吲哚-吲哚并[2,1b]喹唑啉酮-12 青黛酮 N,O-二乙酰吲哚酚

MINOR CONSTITUENTS OF QING DAI, A TRADITIONAL CHINESE MEDICINE
I .ISOLATION, STRUCTURAL DETERMINATION AND SYNTHESIS OF TRYPTANTHRIN
AND QINGDAINONE

ZOU Ji-Chun and HUANG Liang

Abstract:

The study of Qing Dai, a traditional Chinese medicine, has resulted in the isolation of eight minor constituents III~X ($3.3 \times 10^{-5} \sim 4.2 \times 10^{-4}$ %) after removing of the two major constituents I (indigotin) and II (indirubin). Constituent III ($C_{15}H_8N_2O_2$) was found to be identical to the known compound indolo [-2,1b]-quinazoline-6,12-dione (tryptanthrin). Constituent IV ($C_{23}H_{13}N_3O_2$) was assigned on the basis of spectrometric data to have structure IV and confirmed by condensation of III with diacetylindoxyl. It was first found from plant origin and designated qingdainone. III and IV were synthesized and found to be both active in test on melanoma B₁₆ and IV also showed inhibitory action against Lewis lung carcinoma in mice. Structure determination of constituents V~X is in progress.

Keywords: Antitumor agent Qingdainone Tryptanthrin Indolo[2, 1b] quinazoline 6,12-dione 6-Indoxyl indolo [-2,1b] quinazolone-12 N,O-Diacetyl indoxyl Qing Dai

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- 1. 张时行;万邦莉.双波长分光光度法测定青黛中靛蓝和靛玉红含量的研究[J]. 药学报, 1985,20(4): 301-305

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