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高效亲和色谱法测定丹皮酚与固定化人血清白蛋白结合域

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Determination of binding domains of paeonol on immobilized high-performance affinity chromatography

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摘要 利用亲和色谱,在模拟人体生理环境下(37 ℃、pH 7.4),采用竞争置换法研究了丹皮酚(PAE)与固定化人血清白蛋白(HSA)的相
过对PAE的自我竞争分析及PAE与HSA上结合位点的标记物间的竞争置换分析,得到了PAE和HSA间的结合常数、结合位点数和结合
明: PAE在HSA分子中仅存在一类结合位点,结合常数为4.84×103 L/mol,该结合位点为HSA上的Sudlow siteII;通过对PAE与HS
热力学研究,推断出二者间的作用力类型为氢键或范德华力。

关键词： 高效亲和色谱 竞争置换分析 丹皮酚 人血清白蛋白

Abstract： High-performance affinity chromatography was used to investigate the binding of paeonol (PAE) to
immobilized human serum albumin (HSA) under the condition of pH 7.4 and temperature of 37 ℃. Self-competi
elution indicated that there was only one major binding site on HSA for PAE. The association constant of PAE w
was 4.84×103 L/mol. Competition studies based on zonal elution were carried out between PAE and various
which have been known to interact with several major and minor sites on HSA. PAE was found to have direct c
with L-tryptophan. The results indicated that PAE interacted with Sudlow site II on HSA. The thermodynamic a
indicated that the main force between the paeonol and HSA was hydrogen bond or van der Waals force.

Keywords： high-performance affinity chromatography competition and displacement studies paeonol hu
album (HSA)

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