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论文

游离^{125}I与血浆蛋白的结合及其对血药浓度测定的影响

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摘要:

通过体内、外实验, 研究了游离^{125}I与血浆蛋白的结合及其在三氯乙酸(TCA)沉淀后的沉淀百分率, 并与^{125}I-RGD-Sak在SD大鼠中不同时间血药浓度的结果进行了比较. 结果表明, 游离^{125}I能与血浆蛋白结合, 并为TCA所沉淀, 且在一定范围内, 游离^{125}I与血浆蛋白结合后的沉淀百分率与温育时间及游离^{125}I的活度无关. 体内、外实验中, 游离^{125}I与血浆蛋白结合后的沉淀百分率分别为(1.26±0.14)%及(1.38±0.33)%. 沉淀物中含有吸附在沉淀物表面的游离^{125}I, 该吸附需要用TCA沉淀2~3次才能去除. 采用^{125}I核素示踪法进行生物类制品的药代动力学研究时, 应对游离^{125}I的影响进行校正.

关键词: 游离^{125}I 药代动力学 血浆蛋白结合 血药浓度

Influence of Ionic ^{125}I Bound to Plasma Protein on Measurement of Labeled Drug Concentration in Blood

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Abstract:

The aim of this study was to investigate the influence of ionic ^{125}I on the results of pharmacokinetics study for biologic products. The ionic ^{125}I bound to plasma protein was studied through measuring precipitation rates of plasma protein bound ionic ^{125}I after TCA precipitation *in vitro* and *in vivo*, with which precipitation rates of ^{125}I-RGD-Sak in plasma of SD rats at different time were compared. The results of the experiment show that ionic ^{125}I could be bound to plasma protein and be deposited by TCA[*in vitro*: (1.26±0.14)%; *in vivo*: (1.38±0.33)%]. The precipitation rates were independent of the reaction time(10 to 1440 min) and ionic ^{125}I activity(14500 to 120000 count/min). Also, ionic ^{125}I attached to the surface of precipitate contributed a lot to the precipitation rate, which could be eliminated after 2 to 3 times TCA precipitation. The influence of the ionic 125I should be calibrated in ^{125}I tracing method applied to pharmacokinetics study for biological products.

Keywords: Ionic ^{125}I Pharmacokinetics Plasma protein binding Drug concentration in blood

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