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研究报告

^{125}I标记紫杉醇的方法

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摘要 摘要:采用改良的氯胺T法，先用稳定的NaI与紫杉醇作用，再以放射性Na125I标记紫杉醇(paclitaxel)，建立了125I标记紫杉醇的方法。采用纸层析及HPLC测定标记产物的标记率、纯化后放射化学纯度，采用纸层析测定标记产物在不同温度、储存溶剂条件下的体外稳定性，红外光谱鉴定产物。改良Ch-T法所得标记产物的标记率与硝酸氧化法和传统氯胺T法相比较。结果显示，采用改良氯胺T法标记率约63.1%±5.7%，放射化学纯度约96.3%±1.3%；标记物储存于4℃生理盐水或乙醇储存体系中24h、120h，放化纯度分别＞95%和约90%；在血浆中稳定性也较好，在4℃ 、37℃放置24h,放化纯度分别为92.3%±0.4%、89.5%±0.6% 。以上结果表明，改良氯胺T法标记紫杉醇方法简便，标记率高,标记产物稳定性较好，能够满足放射性示踪实验的要求。

关键词 放射性核素 氯胺T法 紫杉醇 HPLC 红外光谱

分类号

Study on the labeling of paclitaxel with radionuclide 125I

Abstract Abstract : The modified Ch-T labeling method has been investigated.. Firstly, the paclitaxel was reacted with non-radioactive NaI. Then the mixtures was radiolabeled with 125I by Ch-T method. The radiolabeling efficiencies were analyzed by thin paper chromatography and HPLC. After purified, the radiochemical purity and stability of the radiolabeled compounds were tested in vitro in different conditions, such as temperature or solvent and the final labeled compound was identified by infrared spectra. The radiolabeled efficiency of the compound produced by the modified Ch-T method was compared with those produced by the nitric acid oxidization method and the common Ch-T method. The radiolabeling efficiency of the labeled compound produced by the modified Ch-T method was about 63.1%±5.7% and the radiochemical purity was about 96.3%±1.3% . After 24 hours stored in NS or alcohol system at 4℃,The radiochemical purity of the product was above 95%, and 90% after 120hours. The labeled product was also stable in serum, after 24h stored at 4℃and 37℃ , the radiochemical purities were 92.3%±0.4% and 89.5% ±0.6% respectively. The modified Ch-T method was simple and convenient. The radiolabeling efficiency was high and the labeled compound was stable. It was qualified for the isotopic tracing experiment in vivo.

Key words radioactive nuclide Ch-T method paclitaxel HPLC IR

DOI

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