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研究简报

^{99m}Tc(CO)3-PNP5新型配合物的初步研究

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摘要　采用两步法成功制备了99mTc(CO)3-PNP5新型配合物，优化了标记条件，标记率大于90%，并对其生物性能进行初步研究。理化性质研究表明：99mTc(CO)3-PNP5是一种体外稳定性好、具有一定脂溶性的阳离子配合物。小鼠生物分布研究表明：99mTc(CO)3-PNP5在心肌中有一定的初始摄取和较好的滞留；血和肺的初始摄取较低，清除较快；肝中的初始摄取高，而清除迅速。而引入Tween-80后，配合物在小鼠中的心肌初始摄取较高，滞留较好；肝中初始摄取较低且清除很快，心/肝比高，明显改善了配合物99mTc(CO)3-PNP5的生物性能。

关键词　99mTc(CO)3-PNP5　生物分布　心肌灌注显像剂

分类号

Preliminary Study on the ^{99m}Tc(CO)3-PNP5 Complex

Abstract　The objective of this study is to synthesize 99mTc(CO)3-PNP5 through ligand exchange reaction and to study its biological characters. Labelling conditions of 99mTc(CO)3-PNP5 were optimized and its labelling yield was over 90% determined by TLC. The results of partition coefficient, charge character and stability studies indicated that 99mTc(CO)3-PNP5 is a lipophilic cation with good stability. Biological properties of 99mTc(CO)3-PNP5 and 99mTc(CO)3-PNP5 (T) were valued contrastively in mice. The results showed that 99mTc(CO)3-PNP5(T) had higher myocardial uptake, lower liver uptake, and better heart-to-liver ratio. This indicated that the biological properties of 99mTc(CO)3-PNP5 were improved obviously by adding Tween-80.

Key words　99mTc(CO)3-PNP5　biodistribution　myocardial perfusion imaging agent

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