

研究简报

[⁹⁹Tc^mN(PNP)]²⁺ 标记葡萄糖硫酮类衍生物混配配合物的研究

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摘要 为研究新的⁹⁹Tc^mN核心标记的心肌和肿瘤显像药物, 选用自行合成的二硫化碳-葡萄糖(硫酮类)衍生物L_n(L₁~L₅)制备一系列带有葡萄糖衍生物基团的新型⁹⁹Tc^m(DTC)(PNP)]⁺类配合物, 经TLC和HPLC检测, 配合物的放射化学纯度均大于90%。小鼠生物分布实验表明, ⁹⁹Tc^mN(PNP)L_n(L₁~L₅)系列配合物在正常小鼠体内初始的放射性摄取主要分布于心肌、肝、肺、肾等脏器, 并且30 min内各脏器均可迅速清除。初步的荷EMT-6鼠生物分布实验显示, ⁹⁹Tc^mN(PNP)L₂在肿瘤中放射性摄取不高, 30 min时为(0.39±0.03) %ID/g, 其它组织的放射性摄取与正常小鼠类似。

关键词 [⁹⁹Tc^mN(PNP)]²⁺; 二硫化碳-葡萄糖(硫酮类)衍生物; 混配配合物; 生物分布

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Synthesis and Biodistribution of Novel Glucose-Dithiocarbamate Derivatives Labelled With [⁹⁹Tc^mN(PNP)]²⁺

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Abstract

A series of novel glucose-dithiocarbamate derivatives L_n(L₁-L₅) were selected to label with TcN²⁺ using bisphosphines (PNP) as coligands for the new myocardial and tumor imaging agents studies.

The radiochemical purity of these complexes were above 90% according to the analysis results of HPLC and TLC. These complexes showed

similar biodistribution characteristics with a lower initial myocardial uptake and a rapid clearance from blood, muscle, liver and other tissues in normal mice. The low tumor accumulation of ⁹⁹Tc^mN(PNP)L₂ complex appeared in mice xenografted with EMT-6 (0.39±0.03)%ID/g in 30 min after injection.

Key words [⁹⁹Tc^mN(PNP)]²⁺; glucose-dithiocarbamate derivatives heterocomplexes; biodistribution

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