

研究简报

^{18}F -FLT的制备及其microPET显像

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摘要 [摘要] 本文制备了增殖显像剂 ^{18}F -FLT, 考察其稳定性及研究其在肿瘤模型鼠的microPET显像。本文以3-N-t-叔丁氧羰基-1-[5'-O-(4,4'-二甲氧基三苯甲基)-2'-脱氧-3'-O-(4-硝基苯磺酰基- β -1)-苏戊呋喃糖]胸腺嘧啶脱氧核苷(N-BOC-FLT)为标记前体进行氟代亲核置换反应, 用HPLC检测放射化学纯度(RCP), 进行稳定性研究和正常小鼠体内分布试验和肿瘤模型鼠microPET显像; 研究结果 显示RCP) 95%, 6h内稳定, 正常小鼠体内分布显示, 在60min时, 肾, 脾, 肠摄取较多, 心, 肝, 肺, 膀胱摄取次之; 肿瘤模型鼠microPET显像能够清晰地观察到接种部位的放射性浓聚。

关键词 [制备, \$^{18}\text{F}\$ -FLT, 肿瘤, microPET](#)

分类号 [R730; R817](#)

Synthesis and MicroPET image of ^{18}F -FLT

Abstract Abstract Synthesis, stability study and MicroPET image of proliferation imaging agent 3'-deoxy-3'-[^{18}F] fluorothymidine (^{18}F -FLT) were reported. Nucleophilic substitution of fluoro replacement reaction was proceeded with N-BOC-FLT as labeling precursor. Radiochemical purity(RCP)was determined by high pressure liquid chromatography(HPLC). Biodistribution was performed in mice. RCP determined by HPLC was over 95% and were stable within 6 h. Biodistribution studies in mice showed that the uptake of ^{18}F -FLT in kidney, spleen and intestine was higher than that of ^{18}F -FLT in heart, liver, lung and bladder at 60min postinjection. MicroPET image of tumor in nude mice bearing tumor xenografts was clear.

Key words [Synthesis, \$^{18}\text{F}\$ -FLT, tumor, MicroPET](#)

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