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研究报告

^{125}I标记的羊抗人IgG多克隆抗体在荷人结肠癌裸鼠体内的生物分布及γ显像

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摘要 采用Iodogen法对羊抗人IgG多克隆抗体(GAHG)进行125I标记，评价其体外稳定性及药代动力学性质，观察125I-GAHG在荷HT-29人结肠癌裸鼠中的生物分布和γ显像，探讨肿瘤细胞分泌的IgG作为靶点进行肿瘤放射免疫显像和治疗的可能性。结果显示，125I-GAHG具有良好的体外稳定性，其血液清除符合二室模型，T1/2α和T1/2β分别为1.19 h和43.99 h。尾静脉给药后，与125I标记的正常羊IgG(125I-GIgG)对照相比，125I-GAHG具有更加明显的肿瘤摄取。瘤体内给药显示125I-GAHG在肿瘤部位具有良好的滞留。在静脉注射后72 h，肿瘤摄取达到最大，为6.71 ± 2.19 %ID/g。靶组织与非靶肿瘤放射性比值(T/NT)随着时间延长逐渐增高。上述结果表明，肿瘤分泌的IgG为肿瘤放射免疫显像和靶向治疗提供了新的靶点和研究思路。

关键词 IgG 125I 肿瘤显像 生物分布

分类号

Biodistribution and γ imaging of 125I-labeled goat anti-human IgG polyclonal antibody in nude mice bearing human colon cancer xenografts

Abstract This study investigated the possibility of IgG secreted from tumor cells as a target for radioimmunoimaging and targeted therapy of cancers. Goat anti-human IgG polyclonal antibody (GAHG) was radioiodinated using Iodogen method, and the in vitro stability and pharmacokinetics were evaluated. The biodistribution and γ imaging of 125I-GAHG were performed in nude mice bearing HT-29 human colon cancer xenografts. The 125I-GAHG showed good in vitro stability, and its blood clearance was defined as a two-compartment model, with the T1/2α and T1/2β were 1.19 h and 43.99 h, respectively. The tumor uptake of 125I-GAHG was much higher than that of 125I labeled normal goat IgG control (125I-GIgG). The 125I-GAHG showed good tumor retention when injecting via intra-tumor. In the biodistribution studies，the highest tumor uptake of 125I-GAHG was 6.71± 2.19 %ID/g at 72 h postinjection and the T/NT values increased along with the postinjection time. It suggests that the IgG deriving from tumor cells may provide a novel target or research idea for radioimmunoimaging and targeted therapy of cancers.

Key words IgG 125I tumor imaging reservoir

DOI

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