

论文

抗MIF单克隆抗体的制备及其放射性碘标记方法

宋静,张超,梁婷,陈富强,侯桂华

山东大学医学院实验核医学研究所, 济南 250012

摘要:

目的 制备抗小鼠巨噬细胞移动抑制因子(mMIF)单克隆抗体(McAb)对其进行放射性碘标记,为进一步研究MIF在炎症、肿瘤核素显像中的意义奠定基础。方法 异丙基硫代-β-D-半乳糖(IPTG)诱导pEQ30-mMIF/M15工程菌表达重组mMIF蛋白;采用杂交瘤技术制备单克隆抗体,蛋白质印迹技术(Western blotting)和酶联免疫吸附试验(ELISA)进行特异性鉴定,巨噬细胞移动抑制试验(MMI)鉴定生物学活性。采用二氯二苯基甘脲(Iodogen)法,用Na125I标记抗mMIF单克隆抗体。结果 成功建立3株稳定高效价分泌抗mMIF单克隆抗体的杂交瘤细胞株,分别命名为5G2D7,5G2C7,5G2E3。经Western blotting、ELISA和MMI鉴定证明抗mMIF单克隆抗体具有良好的抗原特异性和生物学活性;125I-抗mMIF单克隆抗体的标记率为90.40%,放射化学纯度98.36%,放射性比活度为21.48MBq/μg。结论 成功制备抗mMIF单克隆抗体和放射性碘标记抗mMIF单克隆抗体,为深入研究MIF相关性疾病和利用MIF进行临床肿瘤及炎症放射免疫显像提供了实验基础。

关键词: 巨噬细胞移动抑制因子; 单克隆抗体; 放射性同位素; 小鼠; 近交BALB/c

Preparation of anti mMIF monoclonal antibodies and its radio-iodinated labeling

SONG Jing, ZHANG Chao, LIANG Ting, CHEN Fu qiang, HOU Gui hua

Institute of Experimental Nuclear Medicine, School of Medicine, Shandong University, Jinan 250012, China

Abstract:

Objectives To explore the potential values of macrophage migration inhibitory factor(MIF) in inflammation and tumor radioimaging. Methods Recombinant mMIF was obtained through IPTG-induced pEQ30-mMIF/M15 E.coli, and anti-mMIF McAb was made with hybridoma technology whose specificity and biological activities were identified with Western blotting, ELISA and MMI. Anti-mMIF antibodies were radioiodinated by Na125I with Iodogen method. Results Three stable cell lines were obtained, named as 5G2D7, 5G2C7 and 5G2E3 respectively with high specificity and biological activity to MIF. The labeling rate of 125I-anti mMIF McAb was 90.40%, the radiochemical purity was 98.36%, and specific radioactivity was 21.48MBq/μg. Conclusion Anti-mMIF McAb was obtained and radioiodinated successfully,which may supply a new tool for further research of MIF,especially for clinical oncology and inflammation radioimaging.

Keywords: Macrophage migration inhibitory factors; Monoclonal antibody; Radioisotope; Mice; Inbred BALB/c

收稿日期 2009-10-23 修回日期 网络版发布日期

DOI:

基金项目:

通讯作者: 侯桂华(1959-),女,教授,主要从事免疫学和实验核医学研究。E-mail: ghhou@sdu.edu.cn, Tel: 0531 88382096

作者简介: 宋静(1959-),女,高级实验师,主要从事免疫学和实验核医学研究。E-mail: songjing@sdu.edu.cn, Tel: 0531 88382096

作者Email:

参考文献:

本刊中的类似文章

扩展功能

本文信息

- ▶ Supporting info
- ▶ PDF(602KB)
- ▶ [HTML全文]
- ▶ 参考文献[PDF]
- ▶ 参考文献

服务与反馈

- ▶ 把本文推荐给朋友
- ▶ 加入我的书架
- ▶ 加入引用管理器
- ▶ 引用本文
- ▶ Email Alert
- ▶ 文章反馈
- ▶ 浏览反馈信息

本文关键词相关文章

- 巨噬细胞移动抑制因子; 单克隆抗体; 放射性同位素; 小鼠; 近交BALB/c

本文作者相关文章

PubMed