

用夹心酶联免疫法研究hGM-CSF在大鼠体内的药物代谢动力学

何小庆;雷小虹;韩锐

中国医学科学院、中国协和医科大学药物研究所,北京 100050

摘要:

用灵敏的夹心酶联免疫法(ELISA)建立了检测重组人hGM-CSF药代动力学的方法。此方法hGM-CSF在12.5~0.39ngml⁻¹范围内,检测呈线性相关。最低检测灵敏度为0.4ngml⁻¹。本方法不受血清中潜在干扰因素的影响,检测具高度特异性。大鼠schGM-CSF50,100,200μgkg⁻¹后15min,血中即有较高浓度的hGM-CSF,1h左右达峰浓度,以后快速下降。皮下给药,尿中可检测到原型hGM-CSF,但累积排泄率较低。本研究为临床合理用药提供依据。

关键词: 人粒系巨噬系集落刺激因子(hGM-CSF) 酶联免疫法 药代动力学

STUDY ON PHARMACOKINETICS OF HUMAN GRANULOCYTE-MACROPHAGE COLONY STIMULATING FACTOR (hGM-CSF) IN RATS USING A SENSITIVE IMMUNOASSAY (ELISA)

XQ He; XH Lei and R Han

Abstract:

A sensitive and reliable sandwich enzyme linked immunosorbent assay(ELISA)has been developed for determination of concentration of recombinant human granulocyte-macrophagecolony-stimulating factor (hGM-CSF).The assay is quantitative between 0.39~12.5 ng · ml⁻¹)forbacterially synthesized hGM-CSF in rat serum and urine. The method was shown to be highly specificand did not significantly alter the determination when adding some potential interfering substances.After single sc injection of hGM-CSF 50, 100 or 200 μg·g(-1), a high GM-CSF level was detectedabout 15 min in rat serum, the highest level of hGM-CSF was two apparent phases with half-lives $T_{1/2\alpha}$ of 0.72,0.70,0.80 h and $T_{1/2\beta}$ of 8.77,8.87 and 5.58h.A detectable urinary excretionoccured after sc injection of hGM-CSF 200 μg·kg(-1),but the total urinary excretion of unchangedhGM-CSF was very low.

Keywords: Enzyme linked immunosorbent assay (ELISA) Pharmacokinetics hGM-CSF

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作者简介:

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