

论文

超氧化物歧化酶脂质体在大鼠体内的药代动力学和组织分布

张云龙;谢英;王会娟;侯新朴;刘艳

北京大学 药学院 药剂学系, 北京 100083

摘要:

目的考察3种超氧化物歧化酶(SOD)脂质体静脉给药后在大鼠体内的药代动力学和组织分布。方法 用反相蒸发法制备SOD脂质体, 采用黄嘌呤氧化酶法检测SOD活力, 静脉注射给药后, 测定大鼠血中SOD含量变化和不同组织中SOD含量变化。结果在血浆中, SOD水溶液、SOD普通脂质体、用DSPE-PEG2000修饰的SOD脂质体、用Tween 80修饰的SOD脂质体的半衰期分别为0.25, 0.34, 0.66和0.41 h; AUC分别为12.48, 24.66, 41.16和33.02 $\mu\text{g}\cdot\text{h}\cdot\text{mL}^{-1}$ 。与普通脂质体比较, 经过DSPE-PEG和Tween 80修饰后的脂质体, 使肝、脾中SOD的含量有不同程度的降低, 脑中含量有所提高。结论3种SOD脂质体均可不同程度地延长SOD的血浆半衰期, 并以用DSPE-PEG2000修饰的SOD脂质体效果最好。与普通脂质体相比, 用Tween 80修饰的SOD脂质体可以提高进入脑中的SOD量, 用DSPE-PEG2000修饰的SOD脂质体可以减少肝脾对SOD的摄取。

关键词: SOD脂质体 药代动力学 组织分布

Pharmacokinetics and distribution of superoxide dismutase liposomes in rats

ZHANG Yun-long; XIE Ying; WANG Hui-juan; HOU Xin-pu; LIU Yan

Abstract:

AimTo evaluate the effects of surfactants on the pharmacokinetics and distribution in rats after intravenous administration of SOD liposomes. MethodsThe liposomes were prepared by reverse phase evaporation method. The activity of SOD was assayed by method of xanthine oxidase. ResultsThe $T_{1/2}$ of SOD solution, common SOD liposome, SOD liposomes modified by DSPE-PEG2000 and Tween 80 were 0.25, 0.34, 0.66 and 0.41 h, respectively; AUC were 12.48, 24.66, 41.16 and 33.02 $\mu\text{g}\cdot\text{h}\cdot\text{mL}^{-1}$, respectively. Compared with the common liposome, the liposomes modified by DSPE-PEG and Tween 80 decreased the content of SOD in liver and spleen, but increased in brain. ConclusionThe three kinds of liposomes could increase $T_{1/2}$ and AUC in some extent, especially in PEG-L group. Tween-L could increase the SOD content in brain, and PEG-L could decrease the SOD content in the liver and spleen compared with the common liposome.

Keywords: pharmacokinetics tissue distribution SOD liposomes

收稿日期 2004-03-08 修回日期 网络版发布日期

DOI:

基金项目:

通讯作者: 刘艳

作者简介:

参考文献:

本刊中的类似文章

文章评论 (请注意: 本站实行文责自负, 请不要发表与学术无关的内容! 评论内容不代表本站观点.)

扩展功能

本文信息

- ▶ Supporting info
- ▶ PDF(144KB)
- ▶ [HTML全文]
- ▶ 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

- ▶ SOD脂质体
- ▶ 药代动力学
- ▶ 组织分布

本文作者相关文章

- ▶ 张云龙
- ▶ 谢英
- ▶ 王会娟
- ▶ 侯新朴
- ▶ 刘艳

PubMed

- ▶ Article by
- ▶ Article by
- ▶ Article by
- ▶ Article by
- ▶ Article by

反
馈
人

邮箱地址

反馈
标题

验证码

8547