

论文

喜树碱囊泡的研制

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摘要:

目的研制喜树碱囊泡。方法以司盘和胆固醇为主要膜材,用薄膜分散法制备喜树碱囊泡。用透射电镜考察其形态和构造,粒度分析仪测定其粒度分布,HPLC法测定含量并用超速离心法测定包封率。考察其对小鼠S180肉瘤的抗癌活性。结果研制的喜树碱囊泡为与脂质体相似的单室双分子层微型囊泡,平均粒径为(565±6) nm。平均包封率为61%。抑瘤率为76.1%(P<0.05),给药后小鼠体重分别为空白组和溶液组的92.7%(P>0.05)和134.7%(P<0.05)。结论本文首次研制出单室双分子层喜树碱囊泡,其粒度小且分布均匀,包封率较高,抗癌活性较强,并能降低喜树碱毒性。

关键词: 囊泡 形态 粒度分布 包封率 抗癌活性 喜树碱

STUDIES ON THE PREPARATION OF CAMPTOTHECIN NIOSOMES

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Abstract:

AIMTo study the non-ion surfactant vehicle (niosome) entrapped-camptothecin. METHODS The niosome loaded with camptothecin was prepared from Span and cholesterol using aqueous dispersion of film. The vehicles were visualised by transmission electron microscopy and sized by laser particle analyzer on a Malvern Mastersizer. An HPLC analysis method of the camptothecin was established by fluorescence detection. The entrapment efficiency of the niosomes containing camptothecin was determined after the ultracentrifugation of the niosome. The antitumor activities of the vehicles on S180 sarcoma in mouse were studied. RESULTSThe given niosomes were the suspension finely dispersed in aqueous solution. They were spherical vehicles with the single lamellar bilayers similar to phospholipid vehicles. The mean sizes of the vehicles were (565±6) nm. The recovery of the HPLC analysis method was 100.3% with 0.4% RSD. The entrapment efficiency of the camptothecin encapsulated by the niosome was 61%. The inhibition (%) of the niosome loaded with camptothecin on S180 sarcoma in mouse were 76.1% (P<0.05). After the given dose the weights of the mouse of the niosome groups were 92.7% (P>0.05) and 134.7% of blank control groups and camptothecin solution groups, respectively. CONCLUSIONThe camptothecin niosomes were spherical in shape and similar to phospholipid vehicles with singlelamellar bilayers. Their size distributions were narrow. Their entrapment efficiency were higher. Its antitumor activity was better than camptothecin.

Keywords: shape size distribution entrapment efficiency antitumor activity camptothecin niosome

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2. 张景勃;陆彬;.肺靶向卡铂囊泡的研究[J]. 药学学报, 2001,36(4): 303-306

3. 施斌;方超;游美羨;洪明凰;裴元英;.隐形PEG-PHDCA纳米囊泡: PEG的相对分子质量对体外补体消耗和巨噬细胞吞噬的影响[J]. 药学学报, 2005,40(11): 976-981

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