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论文

疏水性聚胺类pH-敏感凝胶作为长效药物控释载体的研究

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摘要:

目的 考察疏水性聚胺类pH-敏感凝胶作为长效药物控释载体的性能及影响因素。方法 以9-氨基吖啶(9AA)为模型药物，用分光光度法测定不同疏水/亲水组成的珠状凝胶在不同pH的药物释放速度。结果 甲基丙烯酸乙酯(EMA)与甲基丙烯酸二乙氨基乙酯(DEA)共聚得到的凝胶,在DEA含量仅为10 mol%时仍保持高度的pH-敏感溶胀性质。该凝胶在pH≥6时可完全不释放药物，在pH 5的柠檬酸缓冲溶液中的释药时间可持续320 d以上。结论 通过选择聚胺类凝胶中适当的疏水性单体及调节凝胶中疏水/亲水成分的配比，有可能按不同释药周期的需要，制备用于pH-敏感长效释药体系的载体。

关键词： 疏水性；pH-敏感凝胶；长效药物控释载体

HYDROPHOBIC pH-SENSITIVE POLYAMINE GELS FOR LONG-TERM CONTROLLED RELEASE SYSTEMS

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Abstract:

AIM To investigate the factors which affect the application of hydrophobic pH-sensitive polyamine gels to long-term release systems. METHODS 9-Aminoacridine (9AA) was used as a model drug, and the amount of drug released from the 9AA loaded gels in buffers at different pH values was measured spectrophotometrically. RESULTS The copolymer gel based on ethyl methacrylate (EMA) and diethylaminoethyl methacrylate (DEA), with just 10 mol% of DEA in the gel, a release period of more than 320 days in a citrate buffer of pH 5 was obtained, but nothing was released at pH≥6. CONCLUSION The hydrophobic pH-sensitive gels are promising materials for developing a long-term controlled release system by adjusting the hydrophobic/hydrophilic composition of the gels.

Keywords: pH-sensitive gels long-term controlled release hydrophobicity

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