[J. Pharm. Sci., 83, 727-732 (1994)] [Lab. of Pharm. Engineering]

In Vitro Drug Release Behavior of D,L-Lactide/Glycolide Copolymer (PLGA) Nanospheres with Nafarelin Acetate Prepared by a Novel Spontaneous Emulsification Solvent Diffusion Method.

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Nanospheres with D,L-lactide/glycolide copolymer (PLGA) were prepared as a biodegradable and biocompatible polymeric carrier for peptide drugs by a novel spontaneous emulsification solvent diffusion method. Nafarelin acetate (NA), a luteinizing hormone-releasing hormone analogue, was employed as a model peptide drug to investigate the encapsulation efficiency. The drug and PLGA, dissolved in an acetone-dichloromethane-water mixture, were poured into an aqueous solution of polyvinyl alcohol under moderate stirring at room temperature.

[Pharmaceutical Research, 11, 478-484 (1994)] [Lab. of Pharm. Engineering]

Preparation of Agglomerated Crystals for Direct Tabletting and Microencapsulation by the Spherical Crystallization Technique with a Continuous System.

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Adhesive and cohesive properties of chlorpromazine hydrochloride (CP) crystals were modified to improve their powder processing, e.g., direct tabletting and microencapsulation, by agglomeration. Moreover, sustained-released gelling microcapsules of CP were devised to prolong the pharmacological effect. The spherical crystallization technique was applied to prepare agglomerates for direct tabletting and microencapsulation to use them as core materials. The ethanolic solution dissolving CP was poured into a stirred cyclohexane, yielding spherically agglomerated crystals.

[Yakuzaigaku, 54(3), 149-156 (1994)] [Lab. of Pharm. Engineering]

Control of Cimetidine Crystal Forms Using Colloidal Silica in Pharmaceutical Preparation Process.

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Three anhydrous crystalline forms of cimetidine (H_2-blocker) (forms I, II and III) were prepared by cooling the hot aqueous solutions of cimetidine with different concentrations at various cooling conditions. The form I crystals, which were prepared from relatively more diluted solutions at a slow cooling rate, showed the most rapid dissolution rate among the three crystalline forms. Crystal form I was identical to that for commercial cimetidine crystals, which could be prepared by recrystallization from organic solutions of cimetidine.