عنوان مقاله:

Modification of flow and compressibility of corn starch using quasi-emulsion solvent diffusion method

محل انتشار:

مجله علوم پایه پزشکی ایران, دوره 17, شماره 8 (سال: 1393)

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خلاصه مقاله:

Objective(s):The aim of this study was to improve flowability and compressibility characteristics of starch to use as a suitable excipient in direct compression tabletting. Quasi-emulsion solvent diffusion was used as a crystal modification method. Materials and Methods: Corn starch was dissolved in hydrochloric acid at ۸۰˚C and then ethanol as a non-solvent was added with lowering temperature until the formation of a precipitate of modified starch. Flow parameters, particle size and thermal behavior of the treated powders were compared with the native starch. Finally, the ۱:۱ mixture of naproxen and each excipient was tabletted, and hardness and friability of different tablets were evaluated. Results: Larger and well shaped agglomerates were formed which showed different thermal behavior. Treated starch exhibited suitable flow properties and tablets made by the treated powder had relatively high hardness. Conclusion: It was found that recrystallization of corn starch by quasi emulsion solvent diffusion method could improve its flowability and compressibility characteristics.

کلمات کلیدی:

Direct compression, Excipient, Flow, Starch