Hypromellose (hydroxypropyl methylcellulose, HPMC) and polyethylene oxide (PEO) are commonly used as rate-controlling polymers in hydrophilic matrices to enhance pharmaco-technical properties of the tablets (improving compressibility, flow and/or mechanical strength). Microcrystalline cellulose, dicalcium phosphate and Starch 1500 are generally used as fillers in hydrophilic matrices. The objective of the present study was to evaluate the use of StarCap 1500, a unique co-processed mixture of globally accepted excipients, corn starch and pregelatinized starch, as an alternative filler in hydrophilic matrices of HPMC or PEO using different drug formulations. For the study, StarCap 1500 was compared to lactose, microcrystalline cellulose, dicalcium phosphate and Starch 1500 in the tablets.

Methods

1. Formulations and Preparation of Matrix Tablets
2. Characterization of the Blends and Matrix Tablets
3. Drug Release Profiles for Theophylline and Chlorpheniramine Maleate
4. Conclusions

Table 1. Formulations and Preparation of Matrix Tablets

Table 2. Characterization of the Blends and Matrix Tablets

Table 3. Drug Release Profiles for Theophylline and Chlorpheniramine Maleate

Method(s) of contd...

Figure 2. Drug release profiles for Theophylline and Chlorpheniramine Maleate Matrix Tablets (Disintegration study was conducted using ISPE Apparatus I, 50 rpm and 100 ml of simulated intestinal fluid).