

## Preparation of chitosan-based porous semi-IPN hydrogels

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The purpose of this study was to develop chitosan-based porous semi-interpenetrating polymer network(semi-IPN) for gastric retention device. Two kinds of chitosan based hydrogels were synthesized as follows; One is poly(AM-co-AA)/chitosan semi-IPN hydrogel, in which pores were formed by gas blowing technique. The other is crosslinked glycol chitosan/PEO semi-IPN hydrogel, in which pores were formed by freeze-drying method.

Both hydrogels were characterized for the pH dependence of swelling properties, morphology and mechanical strengths. Swelling studies were performed for various glycol chitosan/PEO component ratio at stimulated gastric fluid(SGF pH 1.2) and stimulated intestinal fluid(SIF pH 7), respectively. Morphology of hydrogels was observed by scanning electron microscopy(SEM), and mechanical strengths determined by universal testing machine(UTM).