

Drug Delivery System using pH responsive raft gel

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Raft gel is a representative technology having floating mechanism in the field of gastro-retentive delivery system. We applicated alginate based raft gel system in the formulation of both bisphosphonate drug used for osteophoresis and antacid drug for the purpose of enhancing the safety and conveniency.

Part 1 : pH responsive raft gel forming tablet of risedronate

It was developed for the purpose of reducing risk of gastroesophageal irritation of bisphosphonate. pH responsive raft gel forming tablet is effervescent formulation which is characterized by having complimentary mechanisms, both pH control with buffering agent and prevention of gastric reflux with pH responsive raft gel. It can be easily dissolved in small volume of water (100~120 ml) to make raft gel forming solution, and when it contacts with acidic medium (50 ml) simulating various condition of gastric juice, raft gel is formed pH dependently. It has strong potential to provide more convenient dosing than Actonel® without maintaing upright position when it is ingested.

Part 2 : Liquid antacid formulation with pH responsive raft gel