

Release property of pH-sensitive alginate beads containing calcium carbonate

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Calcium carbonate were sonicated with time and alginate beads containing calcium carbonate were prepared by dropping the solution of alginate and calcium carbonate particle into the solution of calcium chloride. Alginate chains were employed to play a role in forming beads by electrostatic interactions with a multivalent ion, Ca^{2+} . The colloidal characteristics of sonicated calcium carbonate was measured by using dynamic light scattering(DLS), it was observed that size of calcium carbonate particle decreased with increasing sonication time. The percent of release of blue dextran(model drug) from alginate beads containing calcium carbonate were observed at different pH values. It was observed that blue dextran release from the beads was higher at lower pH. The percent of release from the beads without sonication was higher than in case of the beads with sonication. This study demonstrated alginate beads containing calcium carbonate has the property of pH-sensitive release.