REVIEW ARTICLE

A REVIEW ON MICROSPHERES: TYPES, METHODS AND EVALUATION

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ABSTRACT

Controlled drug delivery system (CDDS) allows active pharmaceutical agent (API) to be released over extended periods of time, ranging from days to months, by using drug-encapsulating devices. Such systems have a number of merits over conventional drug delivery techniques, including the ability to customize drug release rates, safeguard delicate medications, and improve patient comfort and compliance. Microspheres are suitable carriers for numerous controlled delivery applications owing to CDDS's high bioavailability, prolonged drug release features, biocompatibility and ability to encapsulate a wide range of medicines. This review paper discusses fabrication techniques for microparticles, preparation and characterization processes used to prepare these microspheres, various types of microspheres such as on the basis of drug release pattern (matrix, coated, reservoir) and on the basis of drug delivery system (mucoadhesive, floating, bio-adhesive, radioactive, polymeric, and magnetic, etc.), and the key variables affecting drug release rates from encapsulated particles.