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(57) Abstract :

The present invention relates to the formulation of chlorzoxazone-loaded polymeric microbeads designed for sustained and controlled drug release. The microbeads are prepared using the ionotropic gelation technique, utilizing sodium alginate as the primary polymer, along with Hydroxypropyl Methylcellulose (HPMC) and Polyethylene Glycol (PEG 6000) as co-polymers. Calcium chloride serves as the cross-linking agent to form stable microbeads. The method involves dispersing chlorzoxazone into a polymeric solution, followed by dropwise addition into a calcium chloride solution to induce gelation. The resulting microbeads offer improved drug stability, controlled release, and enhanced patient compliance. The formulation process is simple, cost-effective, and suitable for industrial scale-up, making it a promising approach for delivering muscle relaxant drugs in a sustained release manner.

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