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Authors: Ozgur Esim, Ayhan Savaser, Sevinc Kurbanoglu, Cansel K. Ozkan, Sibel A. Ozkan, Yalcin Ozkan



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Development of assay for determination of eletriptan hydrobromide in loaded PLGA nanoparticles

Ozgur Esim¹, Ayhan Savaser^{1*}, Sevinc Kurbanoglu², Cansel K. Ozkan¹, Sibel A. Ozkan^{2*}, Yalcin Ozkan¹

¹University of Health Sciences, Department of Pharmaceutical Technology, Gulhane Campus, Etlik, 06018 Ankara, Turkey

²Ankara University, Faculty of Pharmacy, Department of Analytical Chemistry, Tandogan, 06100 Ankara, Turkey.

Highlights

- Encapsulation of drug into polymeric nanoparticles
- Eletriptan Hydrobromide loaded Poly (d,l-lactide-co-glycolide) nanoparticles
- Novel, sensitive, and fully validated HPLC technique for Eletriptan Hydrobromide

*Corresponding author.

Abstract

Eletriptan Hydrobromide is a serotonin 5-HT₁ receptor agonist and it used for the treatment of migraine headaches with or without aura. Even if the drug is well absorbed after oral administration, it has some drawbacks like first pass metabolism and decrease in bioavailability after migraine attacks. Encapsulation of drug into polymeric nanoparticles is one of the methods for protecting the drug against degradation. The present work described a preparation of Eletriptan Hydrobromide loaded poly (d,l-lactide-co-glycolide) nanoparticles prepared using o/w single emulsion solvent evaporation method. In order to determine the factors affecting the physicochemical properties of the nanoparticles on the particle size of poly (d,l-lactide-co-glycolide) nanoparticles, D-Optimal design is used. Moreover, novel, simple, sensitive, selective, and fully validated chromatographic technique for the quantification of Eletriptan Hydrobromide from Eletriptan Hydrobromide loaded poly(d,l-lactide-co-glycolide) nanoparticles was developed. Poly(d,l-lactide-co-glycolide) concentration, sonication time and sonication energy

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