



Formulation and Evaluation of Pregabalin Loaded PLGA Nanoparticles

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Abstract : The aim of the present research was formulation and evaluation of Pregabalin loaded PLGA Polymeric nanoparticles (PNP1-PNP9) for the controlled release of Pregabalin using different concentrations of PLGA and surfactant. Pregabalin loaded PLGA Polymeric nanoparticles (PNP1-PNP9) Nanoparticles were characterized for various physical parameters such as particle size, zeta potential and particle size distribution and chemical parameters such as drug content, entrapment efficiency and *In vitro* drug release studies. The prepared Pregabalin loaded PLGA Polymeric nanoparticles with 150 mg of PLGA and 1.5% of surfactant concentration have shown average particle size 125.7 ± 0.43 nm, average zeta potential of -25.4 ± 0.43 mV, average entrapment efficiency $95.35 \pm 0.31\%$, average drug content of $99.82 \pm 0.73\%$ and average *in vitro* drug release $99.85 \pm 0.09\%$ at the end of 24 hrs. DSC and FTIR study concluded that there was no interaction took place between the Pregabalin and other excipients used in the formulation of nanoparticles.

Key words: PLGA, Pregabalin, Zeta potential, Particle size.

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