# Application of solid lipid nonoparticles (SLNs) for separation and preconcentration of atorvastatin

## F. Taheriyoun[1,*], M. Moslehi[2], M. Hamidi[2]

[1]Qazvin Payamenoor University, Qazvin, Iran
[2]Department of Pharmacology, School of Pharmacy, Zanjan University of Medical Sciences, Zanjan, Iran

**Background and Aims:** This study uses solid lipid nanoparticle (SLNs) for enrichment of the highly lipophilic drug atorvastatin in the aqueous samples as a drug extraction method in biological assay.

**Methods:** The hydroalcoholic (10%) solution of atorvastatin with drug concentrations of 0.1, 0.25, 0.5and 1 were prepared and an aliquot of the solid lipid nanoparticles (SLNs) dispersion with 5 ml volume was dialyzed against 50 ml of drug and after 4 hours the drug concentration in dialysor was determined spectrophotometrically at 238 nm. The SLN- treated samples were compared to the control samples prepared as the same except for the addition of (SLNs).

**Results:** The drug enrichment factor of 1.27 was achieved through out concentrate range studies.

**Conclusions:** This early study can serve as a start point for enrichment of atorvastatin in biological samples.

**Keywords:** Solid lipid nanoparticles; Atorvastatin