

## Effect of PEG Blending on the Formation of Drug-Loaded L-PLA Microspheres Using Supercritical Carbon Dioxide

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### Abstract

Recently, drug delivery systems using biodegradable polymers have received much attention of many researchers. The use of poly(lactic acid) (L-PLA) has been prohibited for biomedical applications because of its adverse physical properties such as hydrophobicity, high intrinsic crystallinity, low permeability and so forth. These properties cause a significant decrease in degradation rate. In this study we prepared L-PLA/PEG microspheres containing a model drug using a supercritical antisolvent method and observed their drug release characteristics. Samples are prepared in different proportions (10, 20, 30, 50 and 100% PEG/L-PLA w/w), and PEG of different molecular weight (3,350, 8,000, 20,000) were used. L-PLA of molecular weight of 50,000 was employed as a drug carrier and 5-fluorouracil as a model drug, in this work.

The effect of PEG blending on the formation of 5-FU-loaded L-PLA microspheres under supercritical conditions and their drug release characteristics were investigated in detail.

### References

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