

P134. CONTROLLED RELEASE OF KETOROLAC TROMETHAMINE FROM BIODEGRADABLE MICROSPHERES

Seçil AKGÜL, Ebru KONDOLOT SOLAK

Gazi University, Graduate School of Natural and Applied Sciences, Advanced Technologies, Ankara, Turkey
Gazi University, Technical Sciences Vocational School, Department of Material and Material Processing Technologies, Ankara, Turkey

Ketorolac Tromethamine (KT) is a non-steroidal anti-inflammatory drug. The plasma half-life of KT has been reported to be around 4–6 h, and it is a relatively favorable therapeutic agent for the management of moderate to severe pain. The maximum duration of treatment should not exceed five days for tablets, or two days for continuous daily dosing with intravenous or intramuscular formulations. For this reason, it is important to obtain prolonged or controlled drug delivery, to improve bioavailability or stability and to target the drug to the specific site.

In this study microspheres of poly(vinyl pyrrolidone) (PVP)/sodium carboxymethyl cellulose (NaCMC) were prepared to encapsulate KT drug. Microspheres were prepared by emulsion crosslinking method using a mixture of water/oil. Iron (III) chloride (FeCl₃) was used as crosslinking agent. Microspheres were also characterized by equilibrium swelling values and release profiles. Equilibrium swelling experiments indicated that the swelling of the spheres decreased with an increase in crosslinking time. The release studies were carried out at pH 7.4.

* secilakgul89@gmail.com