UPLC-MS/MS Determination of Aceclofenac and Diclofenac in Bulk, Dosage forms and in At-line Monitoring of Aceclofenac Synthesis

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Abstract

The derivatization product of diclofenac (DCL), aceclofenac (ACL), is a non-steroidal anti-inflammatory drug (NSAID) which causes faster and extended action with reduced gastrointestinal (GI) inflammation. The detection of DCL in ACL bulk and pharmaceutical products indicates incomplete synthesis and hydrolysis. In this article we have developed a UPLC-MS/MS method for analysis of ACL and DCL. The method was designed as an at-line monitoring tool for process analytical technology (PAT) application to ACL synthesis. The method was also applied for analysis of ACL and DCL in bulk and tablets.

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