

Western Illinois University
2021 Thomas E. Helm Undergraduate Research Conference

Abstract

Live Poster Session

Major: Forensic Chemistry

Faculty Mentor: Liguo Song

**Quantification of ketoprofen in equine plasma by ultra-high performance liquid chromatography
electrospray ionization tandem mass spectrometry (UHPLC-ESI/MS/MS)**

Jacqueline Brownlee

An UHPLC-ESI/MS/MS method was developed for simultaneous quantification and confirmation of ketoprofen in equine plasma. Ketoprofen was recovered from equine plasma by strong anion exchange solid phase extraction (SAX-SPE). The concentration of ketoprofen was determined between 5 and 250 ng/mL by internal standard calibration using naproxen-d3 as the internal standard. The limits of detection (LOD) were determined to be 1 ng/mL. The measurement precision and accuracy were 4.5% and 102.7%, respectively. The method is not interfered by any other NSAIDs that are regulated by the United State Equestrian Federation (USEF). The method can assist USEF to control doping in horse racing.