PW9 Method for the determination of an amino-acetonitrile derivative and its sulfone metabolite in sheep blood

Anja Browning[1], Daniela Karadzovska[1], Qiang Li[1], Martin Jung[2] and Kathleen MacKenzie[1]

[1]Bioanalytics, Yarrandoo R&D Centre, Novartis Animal Health, Kemps Creek, NSW, Australia

[2]Bioanalytics, Novartis Animal Health, Saint-Aubin, Switzerland

LC-MS/MS, quantitation, Monepantel

LC-MS/MS method and validation for Monepantel in sheep blood

This method allows the determination of a member of a new class of anthelmintics, the amino-acetonitrile derivatives. Monepantel (MON) and its metabolite, monepantel sulfone (MONSUL) are extracted from blood by means of protein precipitation and solid phase extraction followed by LC-MS/MS quantitation. The method has been validated for sheep blood and is potentially applicable to blood from various animal species, likely to be treated with MON products. The limit of quantitation (LOQ) for this method is 3 ng/mL for both MON and MONSUL. Control blood samples were fortified with MON and/or MONSUL, as a combination of equal amounts, ranging from 3 to 200 ng/mL, and recoveries of each analyte were determined, using external (pure) standard calibration. For accuracy assessment, mean recoveries ranged from 92.5–109% (MONSUL) and 93.8–112% (MON). The experiments included a comparison between pure standards and matrix matched standards. The differences in resultant QC data were negligible.