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|  | Figure 3. A Calibration line over the range of 10 to $50000 \mathrm{pg} / \mu \mathrm{L}$ for Sulfadimethoxine in HBSS acquired in APCI negative mode. <br> RESULTS AND DISCUSSION <br> The data were acquired over a 24 -hour period with 300 samples of sulfadimethoxine spiked into HBSS directly injected onto an Atlantis $\mathrm{dC}_{18}, 5 \mathrm{~mm}$, $2.1 \times 100 \mathrm{~mm}$ column. This eluent was sprayed directly into the Quattro Premier ionization source. <br> Figure 2 shows the plot of absolute area against injection number resulting in a relative standard deviation (RSD) of $4.1 \%$ across all samples. <br> The calibration range of 10 to $50000 \mathrm{pg} / \mathrm{pl}$ showed excellent linearity with a correlation coefficient of $>0.99$ using a linear fit with $1 / x$ weighting. All the calibration points gave backcalculated values within $\pm 15 \%$ of the theoretical concentrations. <br> CONCLUSIONS <br> The Quattro Premier tandem quadrupole mass spectrometer has been developed for quantitative LC/MS/MS. The new ZSpray source design has enabled the rugged analysis of pharmaceutical compounds with excellent reproducibility. The instrument was evaluated by injecting undiluted HBSS spiked with sulfadimethoxine over a 24 -hour period (300 injections). <br> The results showed that the sensitivity of the sulfadimethoxine analysis was maintained with a relative standard deviation of $4.1 \%$. The calibration line resulted in a linear plot over the range 10 to $50000 \mathrm{pg} / \mathrm{\mu L}$ with a correlation coefficient of $>0.99$ highlighting excellent linearity. This demonstrates the robustness of the new ZSpray interface for complex matrices. |

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