



A highly sensitive LC-MS/MS method for the quantification of melamine in milk, using the SCIEX Triple Quad™ 3500 LC-MS/MS System

A simple, robust, selective and sensitive LC MS/MS method was developed for the quantification of melamine in milk in order to reach a detection limit of 0.05PPB in aqueous solution. In milk extracts, a calibration range of 2.5 ppb to 400 ppb was achieved with the correlation coefficient of $r \geq 0.99$ for melamine using linear regression and weighting factor $1/X^2$. SCIEX OS Software 1.7 was used for the data processing and calculation of linearity and ion ratios for the confirmation of analyte concentration. Accuracy for all matrix-based calibration standards and quality control samples was between 80 and 120 %. The SCIEX Triple Quad™ 3500 system was found to be capable of analyzing concentrations of melamine in milk samples well below the MRL level as required by the regulatory bodies.

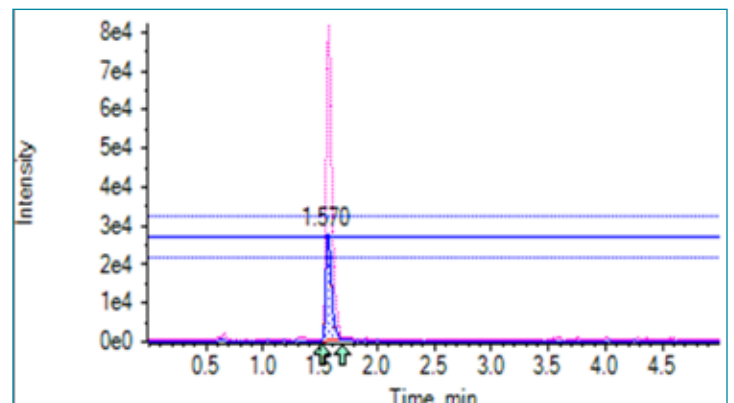


Figure 1. Representative chromatogram for melamine at 50 ppb level, with $\pm 20\%$ difference in the ion ratio

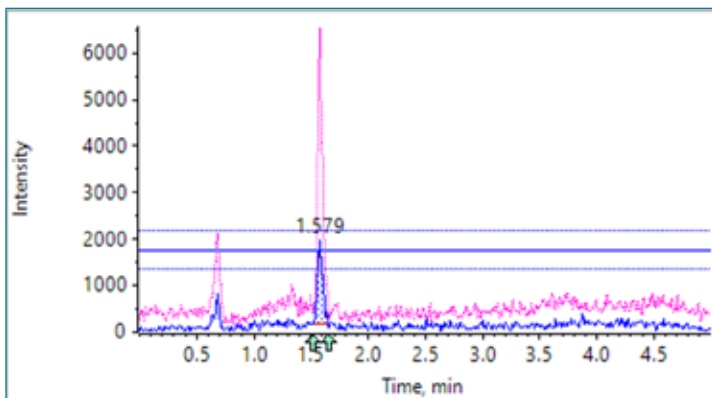


Figure 2. Representative chromatogram of melamine_0_1 (quantifier) and melamine_0_2 (qualifier) at LOQ level (2.5 ppb) in milk extract

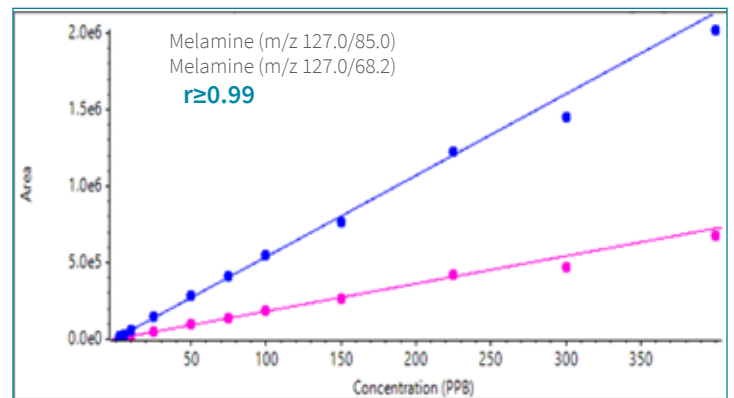


Figure 3. Calibration curve of Melamine range from 2.5 ppb to 400 ppb.

To learn more about this method, please email : Marketing.India@sciex.com.

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