Evaluation of new Nano-Electrospray source for the Finnigan MAT 900

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The analysis of peptide hormones and other novel protein compounds in the sport drug testing field is becoming ever more prevalent. The development of the EPO testing capabilities for the Sydney 2000 Olympics games and the further investigation into the testing for human growth hormone and blood substitutes are just a few examples.

At present, in sports drug testing, the methods to detect peptide hormones are based on antibody reactions. Greater specificity would be achieved if mass spectral identification was possible. However as the concentrations of such hormones in blood or urine are very low the total amount of hormone available may only be a few nanograms. Nano-electrospray (ESI) is being investigated as a means of achieving the sensitivities required.

A newly available nano-ESI source for the Finnigan MAT 900 has been purchased. Its sensitivity is being examined using a number of compounds of interest. In addition to using the supplied gold plated glass pipettes several other tips are being evaluated, included in-house made tips.