Biomek®-3000 and GenPlex in Forensic Genetics
Stangegaard, Michael; Tomas Mas, Carmen; Hansen, Anders Johannes; Frank-Hansen, Rune; Børsting, Claus; Morling, Niels

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RESULTS

The results obtained with 15 manually processed samples were compared to results obtained with the same samples processed on the Biomek-3000 (Figure 2). Full concordance between manually processed and automated processed samples were obtained in all genetic systems. Subsequently, a total of 286 samples were analyzed in duplicates with the Genplex reaction using the Biomek-3000. Of the total of 572 samples, 97.6% resulted in a full profile. Full concordance was obtained between the two investigations of each sample. The results were further compared to those obtained from the same samples using a 49-plex PCR in combination with an ISO 17025 accredited SNaPshot® (AB) single base extension assay [3]. Full concordance of the results was obtained in all but one sample resulting in 99.99% concordance.

CONCLUSIONS

Overall, the results demonstrate that the Biomek-3000 can perform a series of complex reactions leading to highly consistent forensic genetic SNP typing results. Further key findings:

- Complete SNP profiles are reproducibly obtained using 250 pg input DNA.
- The performance of the Genplex reaction is unreliable when the amount of DNA is below 100 pg.
- Some miscalled alleles were observed in samples with 50 and 20 pg of DNA.
- Cluster analysis can be used to identify mixtures.

REFERENCES