



## Drug Analysis in Hair by The National Institute of Criminalistics and Criminology

### CONTEXT

Within the context of drug analysis in hair new protocols have been developed to establish the toxicological profile of a patient. Those techniques involve constraints as low volumes and concentrations and absence of cross-contamination. Before the analysis by HPLC-MS/MS, the samples had to be reduced in powder form.

See also the publication

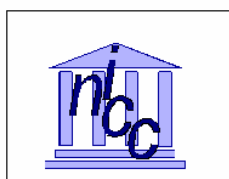
1. Journal of Analytical Toxicology, Vol. 29, Oct 2005
2. Anal Bioanal Chem DOI 10.1007/s00216-007-1297-9

### MATERIAL

- Precellys®24 equipment
- Precellys® kit MK28 (metal beads)
- Sample : 1cm hair segments
- Buffer : empty

### PROTOCOL

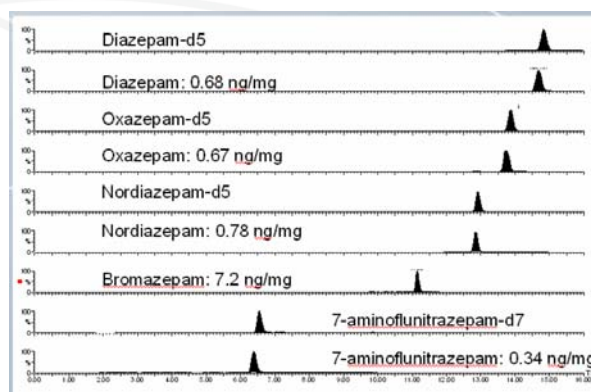
- Precellys®24 parameters:  
6500 rpm, 2x50 sec., 15 sec. break



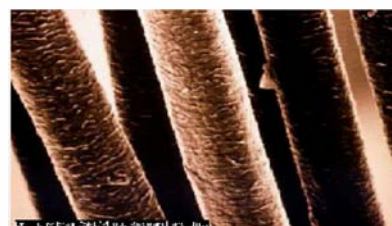
### RESULTS

Analysis of an authentic hair sample by HPLC-MS/MS with the following steps :

1. Decontamination (Dichloromethane)
2. Grinding (Precellys®24)
3. Incubation (Methanol)
4. Centrifugation
5. Evaporation
6. Filtration
7. Analysis by HPLC-MS/MS



NICC, Belgium January 2005



### CONCLUSION

Precellys®24 is successfully evaluated on hair grinding, which is considered a difficult and challenging sample. Results of toxicology tests in crime labs are now faster.