# Automated On-Line Extraction System for MS/MS Newborn Screening

Newborn screening is a public health program provided by most of the countries around the world aimed at screening newborns for a list of serious genetic and metabolic disorders. Early diagnosis of those conditions can help prevent their further development which untreated often results in brain damage, organ damage, and even death. A routine neonatal screening procedure requires that a health professional takes a few drops of blood from the baby's heel, applies them onto a filter paper and sends such prepared samples to a laboratory for a number of analytical tests.

Sample preparation taking place before analysis may be laborious, time consuming and not very precise due to carry-over when processed with traditional "punch-and-elute" methodology. Application of CAMAG DBS-MS 500 direct sample elution system offers fast, efficient and highly reliable sample handling. In addition, this fully automated system eliminates the need for any human inference (optional phrase: operates without any need for any manual work) in-between samples.

Screening for Phenylketonuria (PKU)*
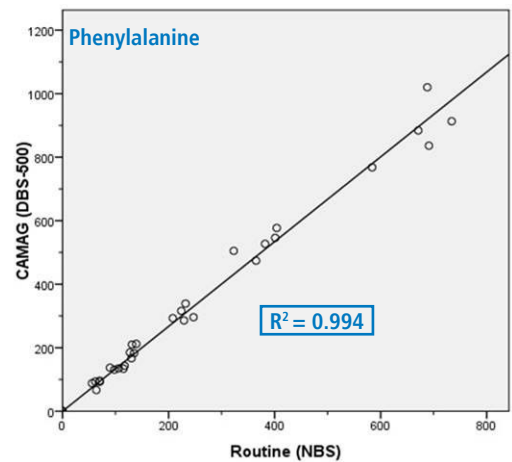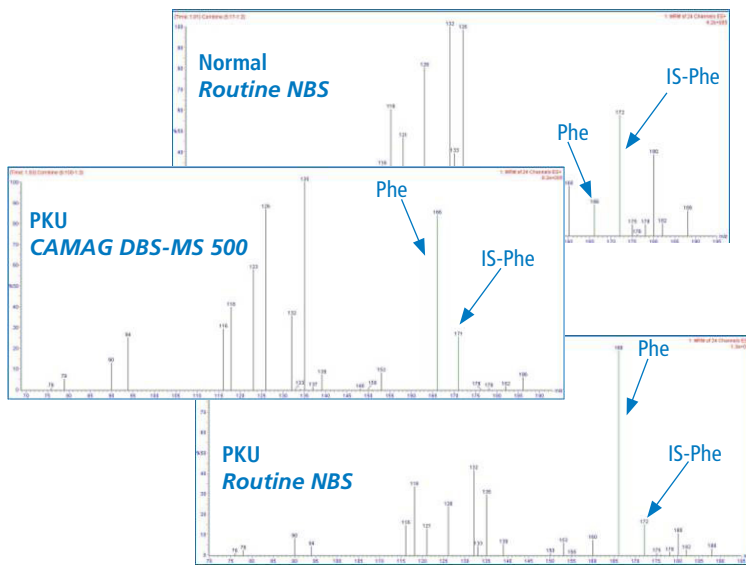
Intra-day Precision [%CV, n = 10]		Intra-day Accuracy [%, n = 10]		Inter-day Precision [%CV, n = 3]		Inter-day Accuracy [%, n = 3]	
Concentration (µmol/L)	CAMAG NBS (direct analysis)	Concentration (µmol/L)	CAMAG NBS (direct analysis)	Concentration (µmol/L)	CAMAG NBS (direct analysis)	Concentration (µmol/L)	CAMAG NBS (direct analysis)
Low	4.9	Low	117.7	Low	8.3	Low	111.5
High	3.3	High	114.4	High	7.0	High	103.8

Screening for Medium chain acyl-CoA dehydrogenase deficiency (MCAD)*
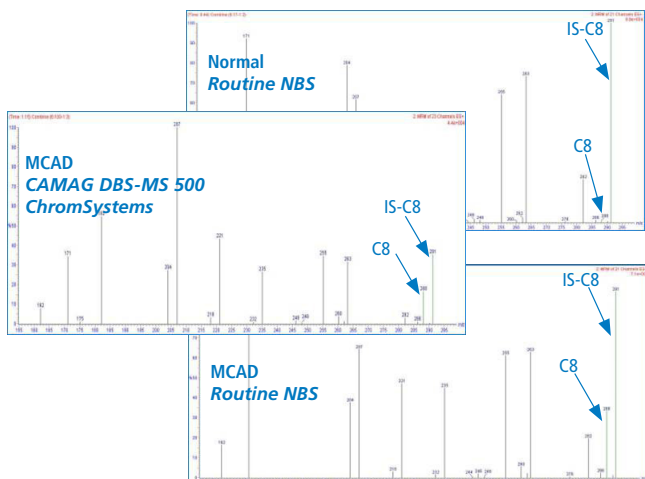
Screening for Propionic acidemia (PA)*
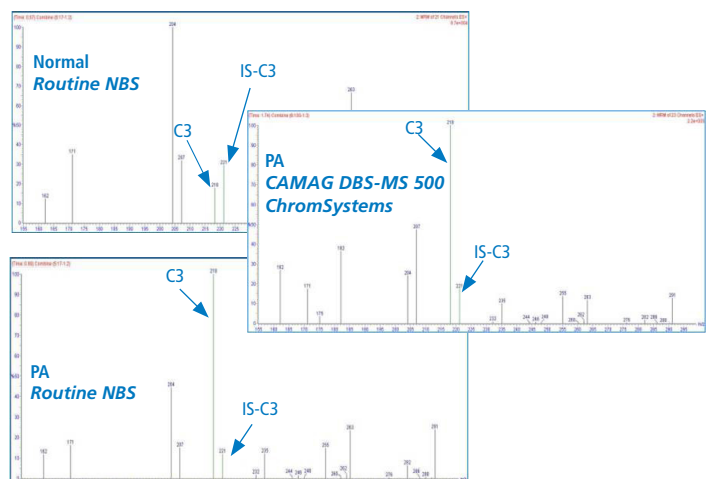
*Data provided by Dr. Ralph Fingerhut, Universitäts-Kinderspital Zürich

CAMAG DBS-MS 500
FULLY AUTOMATED DRIED BLOOD SPOT EXTRACTION SYSTEM

- FULLY AUTOMATED HANDLING OF UP TO 500 DBS CARDS
- BARCODE READING DEVICE FOR DBS CARD IDENTIFICATION
- AUTOMATED INTERNAL STANDARD (IS) APPLICATION MODULE
- EXTRACTION MODULE INDEPENDENT OF LC-MS MOBILE PHASE
- WASH STATION TO ELIMINATE CARRY-OVER
- EASY INTEGRATION WITH ANY LC-MS SYSTEM

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