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Poster

## [P27-6] P27-6: Clinical toxicology (2)

Chair: David William Kinniburgh, Canada

Wed. Sep 27, 2017 12:30 PM - 1:30 PM Annex Hall (1F)

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(Wed. Sep 27, 2017 12:30 PM - 1:30 PM Annex Hall )

## [P27-6-9] A high-throughput solution for therapeutic drug monitoring with LC-MS/MS — 132 drugs on one column

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Keywords: TDM, high-throuput, LC-MS/MS, clinical routine, multi-analyte method

### Background

As the number of drug classes with TDM-recommendation is increasing, reliable and fast multi-analyte diagnostic methods are in demand. For this purpose, toxicologic routine labs are looking for robust methods with easy sample preparation and specific analysis.

### Methods

We developed 2 LC-MS/MS kit systems that cover 132 different drugs with just one analytical set-up. Based on commercial available multi-level serum calibrators and isotope labeled internal standards method # 1 comprises a one-step sample preparation and a one-dimension chromatography. Method # 2 comprises a two-dimension chromatography without sample preparation and is therefore fully automated.

### Results

Both kit-systems show outstanding validation results for Tricyclic Antidepressants, Antiepileptics, Neuroleptics, Antidepressants, Benzodiazepines and Antimycotics.

### Conclusions

The RECIPE ClinMass TDM kit-systems ensure highly specific and reliable CE-IVD LC-MS/MS methods for TDM of the most commonly used drugs. Matrix effects are compensated by easy sample preparation using suitable isotope labeled internal standards.