

Listed below is a summary of stated validation. Additional information can be provided upon request.

Validation Study/Research Project Number: 20-005-V

Testing Laboratory Section: Toxicology

Title: Confirmation of designer benzodiazepines in urine and blood on the 4500 QTrap LC-MS/MS system

PURPOSE: The presence of benzodiazepines in urine samples is confirmed pursuant to FSS-P-TO-0088: *Confirmation of Benzodiazepines in Urine by Liquid Chromatography-Tandem Mass Spectrometry*. In blood, benzodiazepines are confirmed and quantitated pursuant to FSS-P-TO-0090 *Benzodiazepines in Blood and Zolpidem in Blood and Urine by Liquid Chromatography Tandem Mass Spectrometry*. These procedures include 15 benzodiazepines that have a long history of forensic relevance. Within the benzodiazepine class of compounds new psychoactive substances (NPS) have recently emerged. These drugs are not included in the current procedures and are not reported in casework.

The herein validated procedure will enable the toxicology section to confirm the presence of the following 16 NPS benzodiazepine analytes in blood and urine by analysis of samples extracted per FSS-P-TO-0088/0090 on the QTrap 4500 LC-MS/MS:

Bromazolam

Clobazam

Clonazolam

Delorazepam

Deschloroetizolam

Diclazepam

Etizolam

α -Hydroxyetizolam

Flualprazolam

Flubromazepam

Flubromazolam

Flunitrazolam

Meclonazepam

Nifoxipam

3-Hydroxyphenazepam

Pyrazolam