

MEETING ABSTRACTS

ANALYSIS OF BIS-PYRIDINIUM MONO-ALDOXIMES IN SERUM AND ORGANS USING A HIGH-THROUGHPUT HIGH PERFORMANCE LIQUID CHROMATOGRAPHY APPROACH

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Bis-pyridinium mono-aldoximes (BPMA) are established first-line antidotes against anticholinergic toxicants. Several novel BPMA substances are even more promising candidates, yet their pharmacological properties have not been elucidated. The most prominent candidate compounds are K-117, K-127 and K-269.

A bioanalytical method employing high-performance liquid chromatography with ultraviolet absorbance detection is presented for the quantitative assay of K-117, K-127 and K-269. Following brief sample preparation consisting of extraction or dilution with 0.3 mol/L perchloric acid, the substances were determined in serum, cerebrospinal fluid, kidney, liver, eye and cochlea. The analytes were baseline-separated on a Phenomenex Kinetex EVO-C18 100x3mm (5 µm) column using reversed phase ion-pair chromatography in an isocratic run lasting 4 min and were detected at 275 nm. The employed internal standard was K-117 and K-127 for the evaluation of K-127, and K-117 and K-269, respectively.

The method was validated according to the effective guideline of the European Medicines Agency. The approach has been applied for determining the pharmacokinetic properties of K-117, K-127 and K-269 in rats following intramuscular administration.

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