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Optimisation and validation of ultra-high performance liquid chromatographic-tandem mass spectrometry method for qualitative and quantitative analysis of potato steroidal alkaloids

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Highlights

- Rapid UHPLC-MS/MS quantification method for 4 solanum glycoalkaloids
- The limit of detection were 0.001 µg/mL for glycoalkaloids and 0.002 µg/mL for aglycone alkaloids
- The lower limit of quantification for glycoalkaloids and aglycones were 0.002 µg/mL and 0.004 µg/mL respectively
- Lady Rosetta potatoes have higher steroidal alkaloids than Rooster potatoes

Abstract

An ultra-high performance liquid chromatographic-tandem mass spectrometry (UHPLC-MS/MS) method for quantification of potato steroidal alkaloids, namely α -solanine, α -chaconine, solanidine and demissidine was developed and validated. Three different column chemistries, i.e. ethylene bridged hybrid (BEH) C18, hydrophilic lipophilic interaction and

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