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ABSTRACT BOOK

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The importance of sustainable sourcing of botanical ingredients for the pharmaceutical industry: The Case of Epilobium hirsutum

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Background. Epilobium hirsutum L. (Onagraceae) are well-known medicinal plant traditionally used for the treatment of benign prostatic hyperplasia, as well as kidney and urinary tract disorders (1). Plant has been possessed antiproliferative, anti-inflammatory, antioxidant, antimicrobial, and analgesic activities. These biological effects are mainly attributed to polyphenolic constituents, particularly ellagitannins, flavonoids, and phenolic acids (2). Considering that the therapeutic activity of extracts depends on the metabolite profile, it is important to evaluate the composition of water extract.

Aim: to identify the chemical composition of Epilobium hirsutum water dry extracts.

Methods: polyphenolics were studied using dry water extracts of E. hirsutum. Metabolite profiling of Epilobium extract was identified using an UHPLC-Q-TOF-MS/MS technique. The test sample was analysed by UHPLC quadrupole-TOF-MS/MS and characterised by setting its scanning range from 50–1700 m/z for MS/MS in negative and positive mode of ionisation.

Results. QTOF analysis of Epilobium water extract showed the significant levels of flavonoids, phenols, hydroxycinnamic acids. Oenothein B, chlorogenic acid, myricetin glucoside and isoquercitrin were found in abundance in extracts.

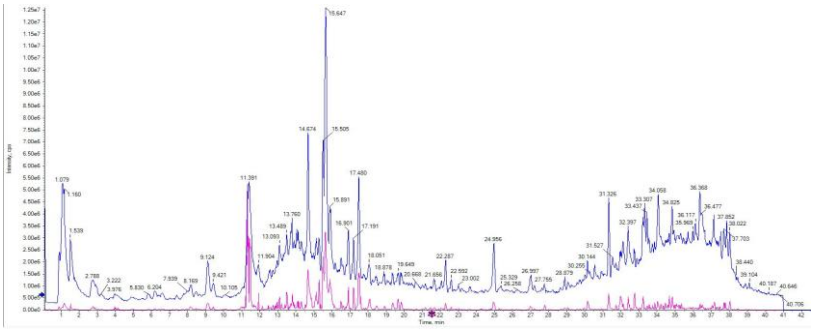

Fig.1. Epilobium hirsutum dry water extract in negative mode.

Conclusion: Comprehensive metabolite profiling of extract is therefore essential to better understand the chemical basis of the biological activity of Epilobium species and to support the identification of potential marker compounds for quality control and standardisation.

References

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