

EFFECT OF DIFFERENT EXTRACTION METHODS ON THE METABOLITE PROFILE OF *ASPERGILLUS* SP. ISOLATED FROM *JUNIPERUS COMMUNIS*

DÁVID RAKK^{1,2}, ARUNA VIGNESHWARI^{1,2}, BILJANA ŠKRBIĆ³, MÓNIKA VARGA¹, CSABA VÁGVÖLGYI¹, ANDRÁS SZEKERES¹

¹Department of Microbiology, Faculty of Science and Informatics, University of Szeged, H-6726, Közép fasor 52., Szeged, Hungary

²Doctoral School in Biology, Faculty of Science and Informatics, University of Szeged, Hungary

³Faculty of Technology, University of Novi Sad

Bulevar cara Lazara 1., 21000 Novi Sad, Serbia

andras.j.szekeres@gmail.com; szandras@bio.u-szeged.hu (A.S.)

Nowadays, several studies have focused on the metabolite profiling of different living organisms. Numerous approaches are available for this purpose, but for the identification and characterization of metabolites the HPLC-HRMS and ¹H-NMR techniques are the most popular due to their high accuracy and efficiency. One of the key element regarding these analyses is the extraction of metabolites. If a non-representative extraction method is used, the metabolite profile will be deformed due to the losses of metabolites. Mostly both polar and non-polar compounds are of interest, thus an extraction method with desirable performance for both groups is needed. Until now several papers have been written in this topic and one phase solvent mixtures are the most prevalent containing polar and non-polar solvents as well. In the other hand there is no a “gold standard” method, which is perfect for all kinds of matrixes and metabolites. Extraction methods usually should be adjusted for the determined set-up. In this work seven extraction methods were tested to determine the metabolite profile of *Aspergillus* sp. Two solvent mixtures from literature and two self-developed ones were compared. The effect of freeze-drying, evaporation and parallel extraction on the metabolite profile was also investigated. It has been found that extraction solvents and various sample-preparation treatments have a crucial effect on the measurability of the metabolites. Applying various extraction methods, the alteration in the quantity and the quality of identified compounds was observed.

Acknowledgements

This work was supported by the Hungarian Scientific Research Fund by grants NKFI K-115690 and this work was connected to the project GINOP-2.3.2-15-2016-00012. AS was supported through the New National Excellence Program

of the Ministry of Human Capacities (ÚNKP-16-4). ASz, BS, CsV and DR participation was supported through the project TÉT_16-1-2016-0148 (National Research, Development and Innovation Fund of Hungary).