

Supplementary information

Identifying the biological potential of Western Balkan Polypore mushroom species to mitigate the negative effects of global mushroom cultivation

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Table 1S. Relationship between EC₅₀ values in antioxidant activities and analyzed secondary metabolite content.

	Inhibition of LPx	SA•DPPH	SA•OH	FRAP	Fe ²⁺ chelating ability
Inhibition of LPx	1	0.68	0.76	0.57	0.17
SA•DPPH	0.68	1	0.62	0.85	0.23
SA•OH	0.76	0.62	1	0.26	0.26
FRAP	0.57	0.85	0.26	1	0.13
Fe ²⁺ chelating ability	0.17	0.23	-0.21	0.13	1
TPC	-0.68	-0.25	-0.70	0.16	-0.30
Vitamin C	0.45	0.35	0.83	0.17	-0.71
β-carotene	-0.74	-0.37	-0.40	-0.16	-0.69
likopene	-0.56	-0.21	-0.11	-0.078	-0.85

Correlation coefficient (*r*)– all values are statistically significant ($P < 0.05$); for absolute values of *r*, 0-0.19 is regarded as a ‘very weak’, 0.2-0.39 as a ‘weak’, 0.40-0.59 as a ‘moderate’, 0.6-0.79 as a ‘strong’, and 0.8-1 as a ‘very strong’ correlation.

Table 2S. Relationship between IC₅₀ values in enzyme inhibition and analyzed secondary metabolite content

	Tyrosinase inhibitory activity	ACE inhibitory activity
TPC	-0.88	-0.71
Vitamin C	0.66	0.78
β-carotene	-0.60	-0.39
likopen	-0.38	-0.15

*r** – all values are statistically significant ($p \leq 0.05$); for absolute values of *r*, 0-0.19 is regarded as a ‘very weak’, 0.2-0.39 as a ‘weak’, 0.40-0.59 as a ‘moderate’, 0.6-0.79 as a ‘strong’, and 0.8-1 as a ‘very strong’ correlation

Table 3S. Selectivity of methanol extracts in antitumor action

SC ^α in the antitumour action [IC ₅₀ (normal-human cells)/ IC ₅₀ (human malignant cells)]	<i>F. betulina</i>	<i>F. pinicola</i>	<i>G. applanatum</i>	<i>G. lucidum</i>	<i>C. versicolor</i>
MRC-5/HeLa	1.02	1.33	1.38	2.20	1.73
MRC-5/ K562	1.08	1.10	1.10	2.43	1.83
MRC-5/MDA-MB-453	1.02	1.39	1.26	2.12	1.60
BEAS-2B/HeLa	0.95	1.21	1.32	1.83	1.21
BEAS-2B/ K562	1.00	1.00	1.04	1.55	1.28
BEAS-2B/ MDA-MB-453	0.95	1.26	1.20	1.35	1.12

^αSelectivity coefficient

Table 4S. Mushroom species collected with corresponding family, habitat, sampling locations and usability. According to the map of Fig. 1.

Species	Family	Habitat	Sampling location	Usability/edibility
<i>Fomitopsis betulina</i>	Fomitopsidaceae	Brown rot fungi, common bracket, mainly on birch trees	1-Divcibare, resort on the mountain Maljen (1,104 m), western Serbia; 44° 5'51.68"N 19°59'39.77"E	Medicinal/good
<i>Ganoderma lucidum</i>	Ganodermataceae	White rot fungi, on decaying hardwood trees	2-Avala, mountain (511 m), near Belgrade, Serbia; 44°41'29.93"N 20°30'34.09"E	Medicinal/hard
<i>Ganoderma applanatum</i>	Ganodermataceae	White rot fungi, causes a rot of heartwood of deciduous and coniferous trees	3-village Babe, mountain Kosmaj (626 m), south of Belgrade, Serbia 44°32'4.36"N 20°30'10.41"E	Medicinal/hard
<i>Fomitopsis pinicola</i>	Fomitopsidaceae	Brown rot fungi, causes a stem decay on softwood and hardwood trees	4-Kopaonik, mountain (2,017m), national park, south Serbia 43°18'13.45"N 20°45'55.52"E	Medicinal/hard
<i>Coriolus versicolor</i>	Polyporaceae	White rot fungi, in groups on logs and stumps of deciduous trees	5- Kosutnjak, a large forest area, Belgrade, Serbia 44°45'37.48"N 20°26'24.86"E	Medicinal/good

Supplementary Materials: The following supporting information can be downloaded at: www.mdpi.com/xxx/s1, Table 1S: Relationship between EC₅₀ values in antioxidant activities and analyzed secondary metabolite content; Table 2S: Relationship between IC₅₀ values in enzyme inhibition and analyzed secondary metabolite content; Table 3S: Selectivity of methanol extracts in antitumor action; Table 4S: Mushroom species collected with corresponding family, habitat, sampling locations and usability. According to the map of Figure 1.

Author Contributions: Conceptualization, J.V., A.K. and M.K.; Methodology, J.V., A.K., M.K., B.Š-T. and Ž.Ž.; Software and Validation, S.M. and M.K.; Formal analysis, J.V., M.K., A.K., B.Š-T., Ž.Ž. and V.L.; Investigation, M.K., J.V. and A.K.; Resources, A.K., M.K. and J.V.; Data curation, M.K. and S.M.; writing – original draft preparation, M.K., J.V., B.Š-T. and S.M.; writing – review and editing, M.K., J.V. and S.M.; Visualization, M.K. and S.M.; Supervision, J.V. and A.K.; Project administration, A.K.; Funding acquisition, A.K., M.K. and J.V. All authors have read and agreed to the published version of the manuscript.

Funding: This research has been financially supported by the Ministry of Science, Technological Development and Innovation of Republic of Serbia (Contracts No: 451-03-47/2023-01/200051 and 451-03-47/2023-01/200026).

Acknowledgments: The authors are grateful to Ph.D. Snežana Spasić (Principal Research Fellow at the Institute of Chemistry, Technology and Metallurgy, University of Belgrade,) for the valuable comments and help during the preparation of original draft.

Conflicts of Interest: The authors declare no conflict of interest.