

Supplementary data to:

Phenolic content and anti-inflammatory activity of cultivated and wild-type *Galium odoratum* extracts in murine bone marrow-derived macrophages

Supplementary Table S1. Growth conditions, collection time and locations of the collected wild and cultivated *G. odoratum* accessions

Accession denomination	Growth conditions	Collection time	Location	Latitude	Longitude	Elevation
GAL01	Wild	22.05.2019	Glāzšķūnis	56°46'54.4"N	24°53'22.4"E	81 m
GAL02		31.05.2019	Amata	57°07'26.0"N	25°26'08.7"E	200 m
GAL03		29.05.2019	Jaunpiebalga	57°08'16.4"N	26°08'06.4"E	210 m
GAL05		29.05.2019	Ērgļi	56°54'04.8"N	24°40'23.1"E	198 m
GAL06		30.05.2019	Staicele	57°54'20.4"N	24°40'23.1"E	49 m
GAL01	Field grown, first vegetation season, sunlight	05.06.2020	IES garden, Priekuļi	57°19'11.7"N	25°19'18.8"E	115 m
GAL03		05.06.2020				
GAL05		05.06.2020				
GAL06		05.06.2020				
GAL01	Field grown, first vegetation season, shade	05.06.2020				
GAL05		05.06.2020				
GAL01	Field grown, second vegetation season, sunlight	25.05.2021				
GAL03		25.05.2021				
GAL05		25.05.2021				
GAL06		25.05.2021				
GAL01	Field grown, second vegetation season, shade	08.06.2021				
GAL03		08.06.2021				
GAL05		08.06.2021				
GAL06		08.06.2021				
GAL01	Field grown, fourth vegetation season, shade	31.05.2023				
		30.08.2023				

Supplementary Table S2. MRM parameters for the analysis of flavonoids, coumarin, and phenolic acids in *G. odoratum*

Compound	Polarity	MS/MS	Cone, V	Collision energy, eV
Kaempferol-3-O-rutinoside	ESI+	595 > 287	30	15
Kaempferol 3,4'-diglucoside 7-rhamnoside	ESI+	757 > 287	30	20
Quercetin 3-rutinoside 7-glucoside	ESI+	773 > 303	30	20
Rutin	ESI+	611 > 303	30	20
Coumarin	ESI+	147 > 91	30	20
		147 > 103		
Chlorogenic acids	ESI-	353 > 191	20	15
p-coumaric acid	ESI-	163 > 119	15	15

Supplementary Table S3. Content of flavonoids, coumarin, and phenolic acid ($\mu\text{g/g}$ of dry material) in aqueous ethanol extracts of wild and cultivated (sun-grown and shade-grown) *G. odoratum* samples

Sample	Quercetin 3- rutinosid e 7- glucoside	Rutin	Kaempfero 1,3,4'- diglucoside 7- rhamnoside	Kaempferol -3-O- rutinoside	Coumari n	p- coumaric acid	Chlorogeni c acid	Chlorogeni c acid isomer 1	Chlorogeni c acid isomer 2
Wild collected in May 2019									
GAL01	178.1	16.9	64.3	65.7	6046.8	4.9	6311.8	434.7	213.2
GAL03	366.0	30.6	26.7	29.7	1474.3	20.1	9619.0	675.7	275.2
GAL05	503.6	98.0	116.9	175.1	8121.4	18.6	6332.3	377.7	125.2
GAL06	182.4	20.9	68.5	86.5	10331.3	5.2	6175.7	520.4	97.7
Average:	308	42	69	89	6493	12.2	7110	502	178
SD:	136	33	32	54	3270	7	1450	112	71
Cultivated (sun-grown) collected in June 2020									
GAL01	13127.6	1085.4	657.3	752.9	8056.8	4.8	21180.1	858.1	362.6
GAL03	15339.0	2943.2	368.6	1054.3	1338.7	8.1	19958.8	653.7	446.0
GAL05	9970.4	2733.7	1008.0	2305.8	8159.6	6.0	21407.2	633.6	294.3
GAL06	7350.3	5510.0	487.2	4146.4	9182.8	4.4	14249.5	693.5	280.1
Average:	11447	3068	630	2065	6684	5.8	19199	710	346
SD:	3039	1583	241	1335	3118	1	2910	88	66
Cultivated (shade-grown) collected in June 2020									
GAL01	929.5	109.7	152.2	201.5	6461.4	4.6	8418.0	490.7	97.1
GAL05	5914.4	666.0	727.0	913.9	7590.0	7.1	16563.9	763.3	209.9
Average:	3422	388	440	558	7026	5.8	12491	627	154
SD:	2492	278	287	356	564	1	4073	136	56
Cultivated (sun-grown) collected in May 2021									
GAL01	4905.4	236.5	495.9	303.0	7541.2	3.8	17218.9	676.6	463.5
GAL03	7054.4	1122.3	292.4	501.9	1749.9	17.0	20593.7	694.5	671.6
GAL05	2934.2	565.3	488.5	744.4	9184.6	11.4	14594.7	569.6	384.3
GAL06	1806.2	798.2	248.5	1338.6	10359.2	5.5	11780.6	531.4	280.5
Average:	4175	681	381	722	7209	9.4	16047	618	450
SD:	1998	324	112	389	3307	5	3254	69	143
Cultivated (shade-grown) collected in June 2021									
GAL01	55.5	9.0	55.6	44.9	5123.1	8.6	14978.0	446.2	356.9
GAL03	95.4	32.6	32.6	78.4	1303.9	19.4	13317.6	545.7	397.8
GAL05	21.6	8.1	48.5	71.2	5002.8	6.8	13213.4	489.3	421.2
GAL06	23.2	8.0	31.6	63.7	9531.9	6.2	5413.0	418.6	100.3
Average:	49	14	42	65	5240	10.2	11731	475	329
SD:	30	10	11	13	2915	5	3714	48	128
Cultivated (shade-grown) collected in May 2023 (before flowering)									
GAL01	125.1	36.6	466.2	120.9	1782.4	14.6	12014.8		
Cultivated (shade-grown) collected in May 2023 (flowering)									
GAL01	57.3	15.6	345.2	85.0	3296.6	10.6	9058.4		
Cultivated (shade-grown) collected in August 2023 (after flowering)									
GAL01	70.2	22.6	597.5	282.6	4875.6	2.6	10175.0		

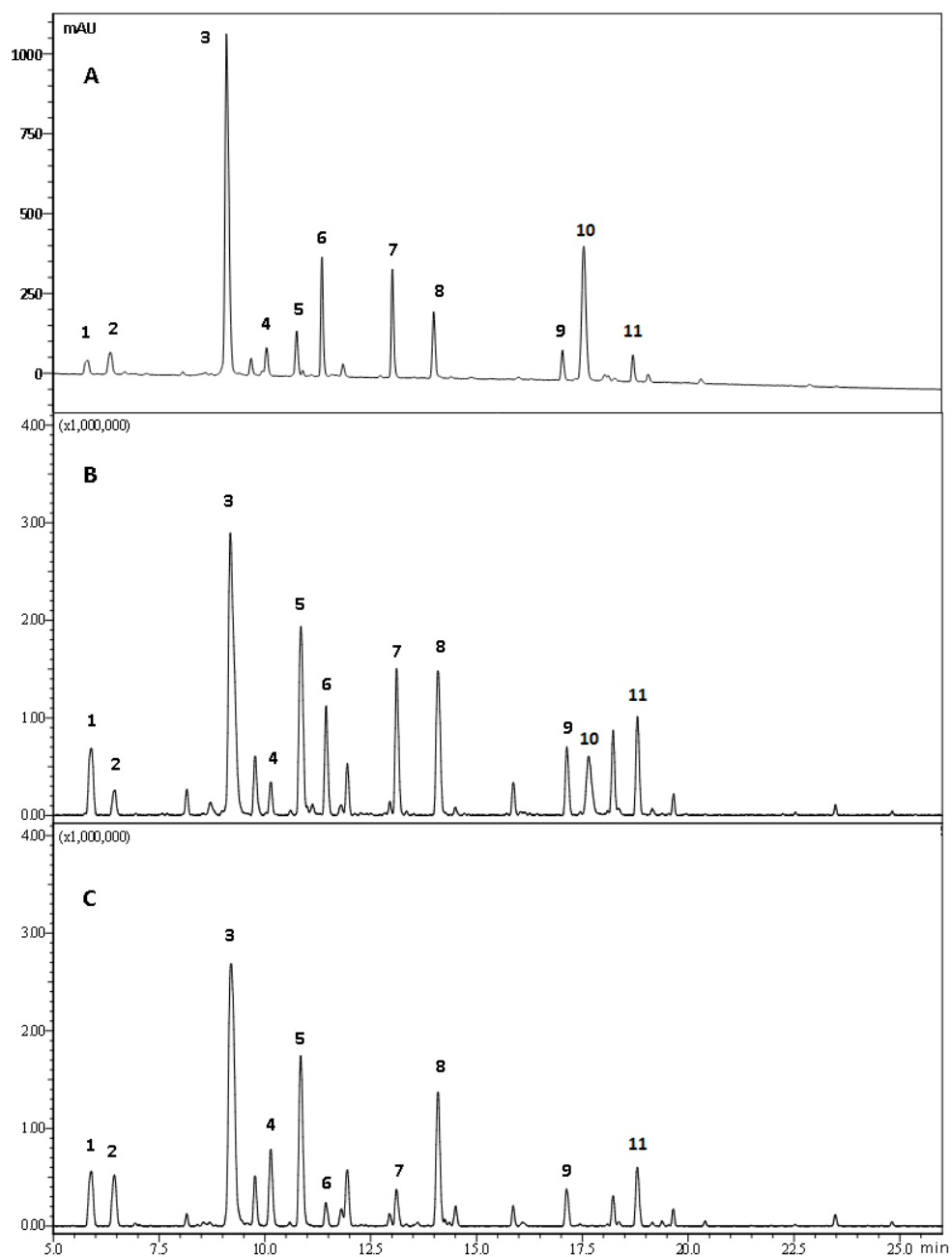


Figure S1. Representative chromatogram of *G. odoratum* (sun-grown) 70% ethanol extract, (A) UHPLC-PDA (254 nm), (B), and (C) UHPLC-HRMS in positive and negative ionization mode, respectively.

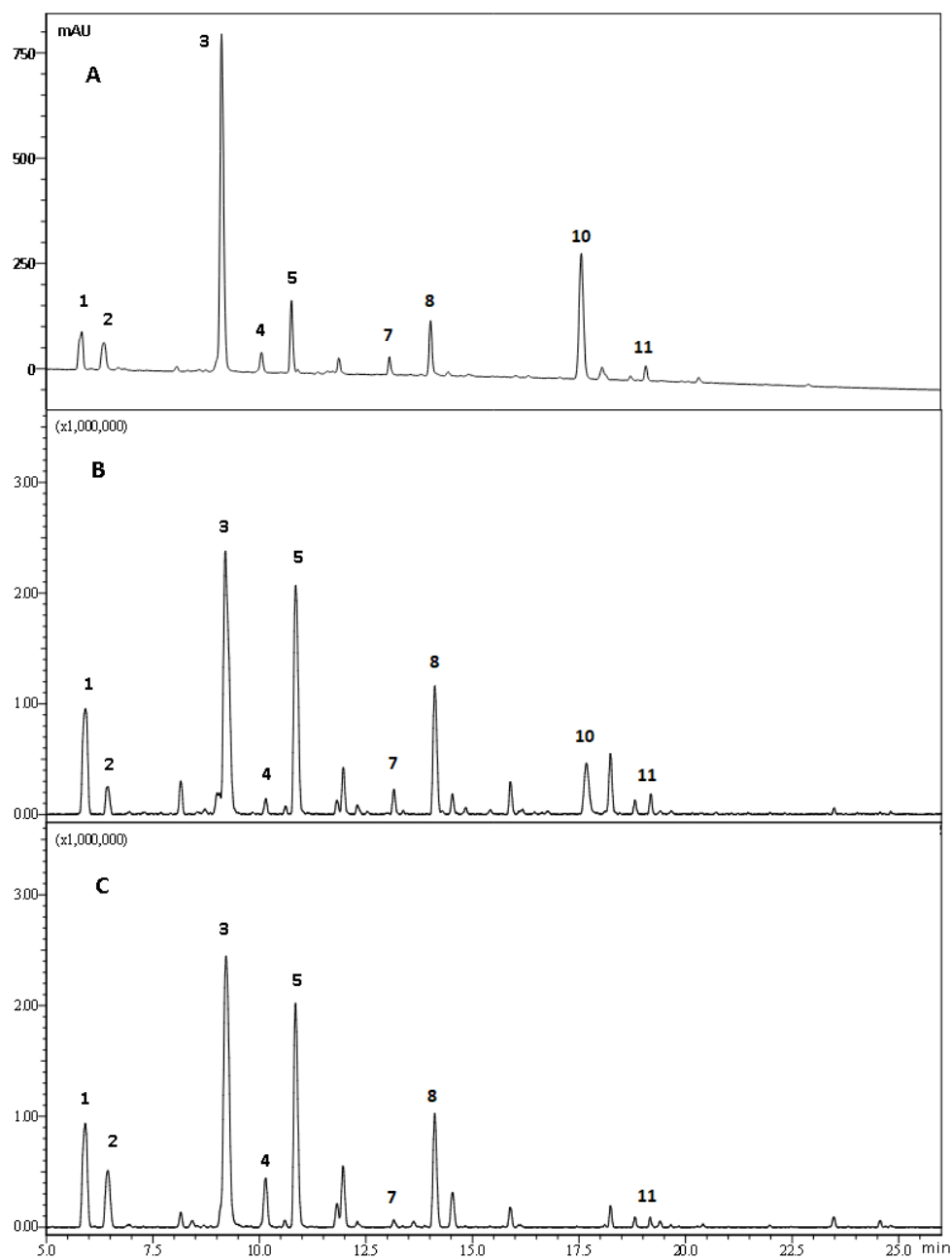


Figure S2. Representative chromatogram of *G. odoratum* (shade-grown) 70% ethanol extract, (A) UHPLC-PDA (254 nm), (B), and (C) UHPLC-HRMS in positive and negative ionization mode, respectively.

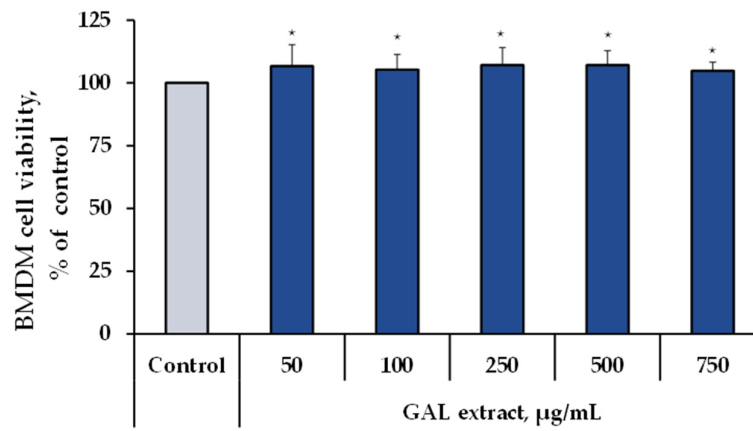


Figure S3. Effects of *G. odoratum* extract on bone marrow-derived macrophage viability measured by the MTT assay. Cell viability was tested after 24 h of incubation. Values are represented as the mean \pm SD of three independent measurements in six parallels. * - significantly different from the untreated control (unpaired t-test, $p < 0.05$).