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SUPPLEMENTARY MATERIAL TO
**Comparative study of chemical composition and the
antimutagenic activity of propolis extracts obtained by
means of various solvents**

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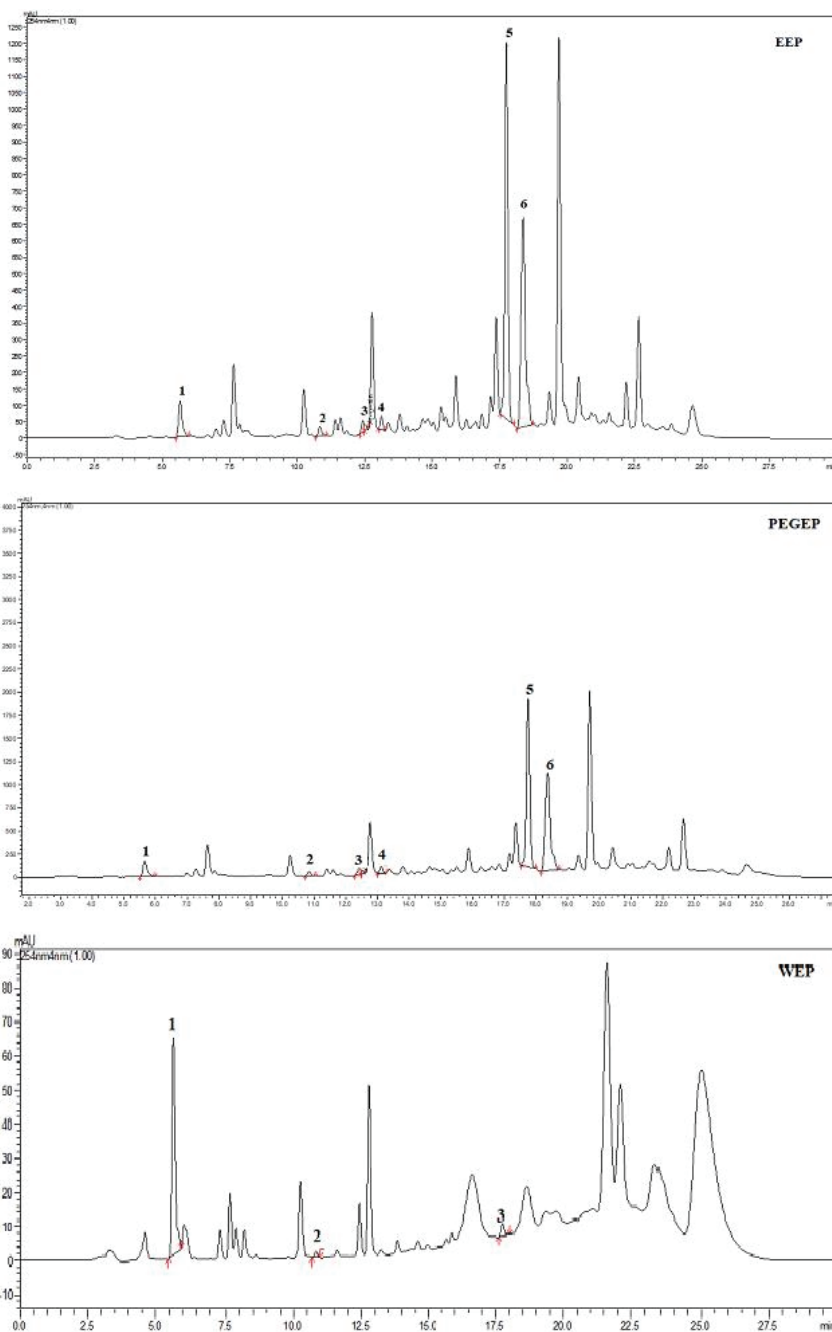


Fig. S-1. Chromatograms of different propolis extracts EEP, PEGEP and WEP with identified marker compound. (1) caffeic acid; (2) quercetin; (3) apigenin; (4) kaempferol; (5) chrysin; (6) caffeic acid phenyl ester.

Table S-I. Chemical compositions of different extracts of propolis by LC-MS/MS

Compounds	Hydrolysis method					
	EEP		PEGEP		WEP	
	RT	Conc (ng/ml)	RT	Conc (ng/ml)	RT	Conc (ng/ml)
Gallic Acid	1.669	6089.82	1.685	6372.29	1.694	7863.34
Protocatechuic Acid	1.822	16942.81	1.822	15454.19	1.813	39990.99
2,5-Dihydroxybenzoic ac.	2.175	255.23	2.175	369.86	2.158	196.24
Syringic Acid	3.166	0.00	3.807	0.00	3.925	0.00
Caffeic Acid	3.731	1741671.45	3.740	3950734.23	3.706	1065005.09
Chlorogenic Acid	3.660	21752.79	3.677	228606.63	3.711	2670.34
Salicylic Acid	3.750	456.41	3.767	450.16	3.767	526.15
Catechin	3.863	40.07	3.829	445.56	3.821	118.50
Hesperidin	3.978	192.34	3.953	192.20	3.860	2.75
Verbascoside	4.096	0.00	3.919	0.00	3.944	0.00
Rutin	3.970	602.18	3.936	574.56	3.953	7.75
2-Hydroxytranscinnamic ac.	4.020	0.00	3.986	0.00	4.003	0.00
p-Coumaric Acid	4.019	280024.06	3.985	121966.77	3.994	53546.57
Sinapic Acid	3.890	0.00	3.899	0.00	4.000	0.00
Naringin	4.038	0.00	3.877	0.00	3.903	0.00
Trans Ferrulic Acid	4.061	636401.30	4.052	250267.13	4.061	73149.18
Ethyl Gallate	4.069	24.64	4.145	0.53	4.103	2.15
Oleuropein	4.055	0.00	4.123	0.00	4.097	0.00
Phlorizin	4.114	30.14	4.148	14.31	4.165	0.99
Indole-3-Acetic Acid	4.458	0.00	4.458	0.00	4.483	0.00
Myricetin	4.166	0.00	4.191	0.00	4.183	0.00
Resveratrol	4.389	55.65	4.355	52.88	4.389	0.00
Aloin A	4.233	0.00	4.258	0.00	4.182	0.00
Propyl Gallate	4.136	0.00	3.713	0.00	4.000	0.00
Quercetin	4.268	1402.40	4.268	1231.89	4.268	266.20
Lutolein	4.302	170.91	4.311	199.58	4.302	32.62
Abscisic Acid	4.304	174.71	4.312	182.13	4.312	152.30
Naringenin	4.395	2010.29	4.395	2094.61	4.395	2426.36
Kaempferol	4.362	862.92	4.353	924.16	4.328	362.76
Isorhamnetin	4.327	3320.89	4.327	3387.57	4.327	724.52
Genistein	4.631	92.75	4.631	89.23	4.590	52.05
Apigenin	4.439	146.03	4.438	155.96	4.438	45.80
Jasmonic Acid	4.423	0.00	4.390	0.00	4.423	0.00

EEP: Ethanolic extract of propolis; PEGEP: Polyethylene glycol extract of propolis; WEP: Water extract of propolis; RT: Retention time; Conc: Concentration

Table S-II. Chemical compositions of different extracts of propolis by LC-MS/MS

Compounds	Acidic hydrolysis method					
	EEP		PEGEP		WEP	
	RT	Conc (ng/ml)	RT	Conc (ng/ml)	RT	Conc (ng/ml)
Gallic Acid	1.694	51135.74	1.694	52561.86	1.694	56182.52
Protocatechuic Acid	1.839	34490.72	1.830	35940.28	1.830	65688.17
2,5-Dihydroxybenzoic Ac.	2.192	125.78	2.184	162.90	2.184	75.53
Syringic Acid	3.892	0.00	3.209	0.00	3.292	0.00
Caffeic Acid	3.740	2449797.25	3.757	4526984.01	3.706	1263642.70
Chlorogenic Acid	3.677	12085.21	3.685	65752.41	3.719	3968.67
Salicylic Acid	3.767	230.58	3.733	29.78	3.767	471.65
Catechin	3.888	41.98	3.838	182.14	3.838	220.90
Hesperidin	3.987	41.45	3.970	58.77	4.037	2.63
Verbascoside	4.113	0.00	4.333	0.00	3.927	0.00
Rutin	3.978	179.01	3.961	156.02	3.987	9.28
2-Hydroxytranscinnamic ac.	4.028	0.00	3.994	0.00	4.003	0.00
p-Coumaric Acid	4.028	218816.83	3.994	91937.97	4.002	46524.13
Sinapic Acid	4.490	0.00	4.178	0.00	3.594	0.00
Naringin	3.996	0.00	3.962	0.00	4.063	0.00
Trans Ferrulic Acid	4.061	460120.78	4.069	196675.58	4.061	58382.57
Ethyl Gallate	4.086	36.61	4.162	1.09	4.120	2.93
Oleuropein	4.123	0.00	4.199	0.00	3.895	0.00
Phlorizin	4.131	9.41	4.123	3.23	4.199	0.00
Indole-3-Acetic Acid	4.467	0.00	4.467	0.00	4.483	0.00
Myricetin	3.930	226.90	3.930	111.63	3.955	29.97
Resveratrol	4.380	87.62	4.406	121.10	4.448	55.22
Aloin A	4.233	0.00	4.191	0.00	4.199	0.00
Propyl Gallate	4.212	0.00	3.773	0.00	4.077	0.00
Quercetin	4.285	931.10	4.285	732.08	4.268	276.60
Lutolein	4.319	169.78	4.319	165.64	4.311	52.59
Abscisic Acid	4.304	100.17	4.312	135.74	4.329	72.39
Naringenin	4.404	3499.25	4.404	3187.08	4.395	2158.61
Kaempferol	4.379	799.68	4.379	784.50	4.319	340.09
Isorhamnetin	4.335	3616.81	4.335	3367.07	4.327	871.79
Genistein	4.623	121.96	4.623	180.38	4.598	61.16
Apigenin	4.438	192.93	4.438	193.18	4.447	61.06
Jasmonic Acid	4.449	0.00	4.466	0.00	4.423	0.00

EEP: Ethanolic extract of propolis; PEGEP: Polyethylene glycol extract of propolis; WEP: Water extract of propolis; RT: Retention time; Conc: Concentration