

Menadione Contribution to the In Vitro Radical Scavenging Potential of Phytochemicals Naringenin and Lignin

Zvezdelina Yaneva ^{1,*}, Donika Ivanova ¹, Monika Toneva ¹, Milena Tsanova ², Vanya Marutsova ³ and Neli Grozeva ²

¹ Department of Pharmacology, Animal Physiology, Biochemistry and Chemistry, Faculty of Veterinary Medicine, Trakia University, Students Campus, 6000 Stara Zagora, Bulgaria; donika.ivanova@trakia-uni.bg (D.I.); monika.toneva@trakia-uni.bg (M.T.)

² Department of Biological Sciences, Faculty of Agriculture, Trakia University, Students Campus, 6000 Stara Zagora, Bulgaria; milena.tsanova@trakia-uni.bg (M.T.); n.grozeva@trakia-uni.bg (N.G.)

³ Department of Internal Diseases, Faculty of Veterinary Medicine, Trakia University, Student Campus, 6000 Stara Zagora, Bulgaria; vanya.marutsova@trakia-uni.bg

* Correspondence: zvezdelina.yaneva@trakia-uni.bg

Table S1. Statistical significance (p-values matrix) of the experimental data for the DPPH radical scavenging activity of the single, two- and three-component solutions.

<i>Variables</i>	<i>lignin</i>	<i>naringenin</i>	<i>vitamin K₃</i>	<i>double combination lignin/naringenin (1:1, v/v)</i>	<i>double combination vitamin K₃/lignin (1:1, v/v)</i>	<i>double combination vitamin K₃/naringenin (1:1, v/v)</i>	<i>triple combination vitamin K₃/lignin/naringenin (1:1:1, v/v/v)</i>
	0	0.015	0.053	0.194	0.178	0.053	0.048
<i>naringenin</i>	0.015	0	0.039	0.180	0.164	0.039	0.034
<i>vitamin K₃</i>	0.053	0.039	0	0.141	0.125	< 0.0001	0.005
<i>double combination lignin/naringenin (1:1, v/v)</i>	0.194	0.180	0.141	0	0.016	0.141	0.146
<i>double combination vitamin K₃/lignin (1:1, v/v)</i>	0.178	0.164	0.125	0.016	0	0.125	0.130
<i>double combination vitamin K₃/naringenin (1:1, v/v)</i>	0.053	0.039	< 0.0001	0.141	0.125	0	0.005
<i>triple combination vitamin K₃/lignin/naringenin (1:1:1, v/v/v)</i>	0.048	0.034	0.005	0.146	0.130	0.005	0

Values in bold are different from 0 with a significance level $p \leq 0.05$.

Table S2. Statistical significance (p-values matrix) of the experimental data for the ABTS radical scavenging activity of the single, two- and three-component solutions.

Variables	<i>lignin</i>	<i>naringenin</i>	<i>vitamin K₃</i>	<i>double combination lignin/naringenin (1:1, v/v)</i>	<i>double combination vitamin K₃/lignin (1:1, v/v)</i>	<i>double combination vitamin K₃/naringenin (1:1, v/v)</i>	<i>triple combination vitamin K₃/lignin/naringenin (1:1:1, v/v/v)</i>
<i>lignin</i>	0	0.040	0.069	0.094	0.084	0.117	0.033
<i>naringenin</i>	0.040	0	0.110	0.135	0.124	0.076	0.073
<i>vitamin K₃</i>	0.069	0.110	0	0.025	0.014	0.186	0.036
<i>double combination lignin/naringenin (1:1, v/v)</i>	0.094	0.135	0.025	0	0.011	0.211	0.061
<i>double combination vitamin K₃/lignin (1:1, v/v)</i>	0.084	0.124	0.014	0.011	0	0.201	0.051
<i>double combination vitamin K₃/naringenin (1:1, v/v)</i>	0.117	0.076	0.186	0.211	0.201	0	0.150
<i>triple combination vitamin K₃/lignin/naringenin (1:1:1, v/v/v)</i>	0.033	0.073	0.036	0.061	0.051	0.150	0

Values in bold are different from 0 with a significance level $p \leq 0.05$.