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SUPPLEMENTAL DATA

Black mulberry fruit extract attenuates valproic acid-induced toxicity by enhancing antioxidant defenses in FaO cells

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Full article is available at the following link: Black mulberry fruit extract attenuates valproic acid-induced toxicity by enhancing antioxidant defenses in FaO cells

Table S1. Statistical results obtained using two-way ANOVA followed by Tukey's post hoc test

Viability acute

Comparisons	Mean 1	SE 1	Mean 2	SE 2	Mean diff.	SE of diff.	95% CI of diff.	Adjusted *p* value	Cohen's d	Hedges' g
CTL vs. VPA	100.00	2.67	77.63	5.59	22.37	5.43	4.983 to 39.75	0.0142	3.4	2.7
CTL vs. M	100.00	2.67	104.10	3.10	-4.13	5.43	-21.52 to 13.25	0.8694	-0.6	-0.5
CTL vs. VPA+M	100.00	2.67	87.40	3.31	12.60	5.43	-4.783 to 29.98	0.1720	1.9	1.5
M vs. VPA	77.63	3.10	104.10	5.59	-26.50	5.43	-43.88 to -9.117	0.0053	-4.0	-3.2
M vs. VPA+M	104.10	3.10	87.40	3.31	16.73	5.43	-0.6499 to 34.12	0.0592	2.5	2.0
VPA vs. VPA+M	77.63	5.59	87.40	3.31	-9.77	5.43	-27.15 to 7.617	0.3400	-1.5	-1.2

Viability chronic

Comparisons	Mean 1	SE 1	Mean 2	SE 2	Mean diff.	SE of diff.	95% CI of diff.	Adjusted *p* value	Cohen's d	Hedges' g
CTL vs. VPA	100.00	2.60	93.97	2.35	6.03	3.32	-4.611 to 16.68	0.3334	1.5	1.2
CTL vs. M	100.00	2.60	111.40	2.93	-11.37	3.32	-22.01 to -0.7226	0.0369	-2.8	-2.2
CTL vs. VPA+M	100.00	2.60	105.30	1.10	-5.30	3.32	-15.94 to 5.344	0.4326	-1.3	-1.0
M vs. VPA	93.97	2.93	111.40	2.35	-17.40	3.32	-28.04 to -6.756	0.0035	-4.3	-3.4
M vs. VPA+M	111.40	2.93	105.30	1.10	6.07	3.32	-4.577 to 16.71	0.3293	1.5	1.2
VPA vs. VPA+M	93.97	2.35	105.30	1.10	-11.33	3.32	-21.98 to -0.6893	0.0374	-2.8	-2.2

H_2O_2 acute

Comparisons	Mean 1	SE 1	Mean 2	SE 2	Mean diff.	SE of diff.	95% CI of diff.	Adjusted *p* value	Cohen's d	Hedges' g
CTL vs. VPA	100.00	30.21	162.30	15.87	-62.33	35.90	-177.3 to 52.64	0.3670	-1.4	-1.1
CTL vs. M	100.00	30.21	106.50	32.54	-6.54	35.90	-121.5 to 108.4	0.9977	-0.1	-0.1
CTL vs. VPA+M	100.00	30.21	132.20	18.83	-32.18	35.90	-147.2 to 82.79	0.8072	-0.7	-0.6
M vs. VPA	162.30	32.54	106.50	15.87	55.79	35.90	-59.18 to 170.8	0.4527	1.3	1.0
M vs. VPA+M	106.50	32.54	132.20	18.83	-25.64	35.90	-140.6 to 89.33	0.8888	-0.6	-0.5
VPA vs. VPA+M	162.30	15.87	132.20	18.83	30.15	35.90	-84.82 to 145.1	0.8345	0.7	0.5

CAT acute

Comparisons	Mean 1	SE 1	Mean 2	SE 2	Mean diff.	SE of diff.	95% CI of diff.	Adjusted *p* value	Cohen's d	Hedges' g
CTL vs. VPA	262.10	42.69	184.50	35.49	77.57	60.56	-116.4 to 271.5	0.5983	1.0	0.8
CTL vs. M	262.10	42.69	229.40	39.46	32.68	60.56	-161.2 to 226.6	0.9468	0.4	0.4
CTL vs. VPA+M	262.10	42.69	214.30	51.91	47.77	60.56	-146.2 to 241.7	0.8576	0.6	0.5
M vs. VPA	184.50	39.46	229.40	35.49	-44.89	60.56	-238.8 to 149.0	0.8778	-0.6	-0.5
M vs. VPA+M	229.40	39.46	214.30	51.91	15.09	60.56	-178.8 to 209.0	0.9941	0.2	0.2
VPA vs. VPA+M	184.50	35.49	214.30	51.91	-29.80	60.56	-223.7 to 164.1	0.9587	-0.4	-0.3

CAT chronic

Comparisons	Mean 1	SE 1	Mean 2	SE 2	Mean diff.	SE of diff.	95% CI of diff.	Adjusted *p* value	Cohen's d	Hedges' g
CTL vs. VPA	132.10	11.51	52.82	7.50	79.28	15.10	30.93 to 127.6	0.0034	4.3	3.4
CTL vs. M	132.10	11.51	90.38	14.09	41.73	15.10	-6.628 to 90.08	0.0929	2.3	1.8
CTL vs. VPA+M	132.10	11.51	60.58	8.30	71.53	15.10	23.17 to 119.9	0.0064	3.9	3.1
M vs. VPA	52.82	14.09	90.38	7.50	-37.56	15.10	-85.91 to 10.80	0.1368	-2.0	-1.6
M vs. VPA+M	90.38	14.09	60.58	8.30	29.80	15.10	-18.56 to 78.16	0.2732	1.6	1.3
VPA vs. VPA+M	52.82	7.50	60.58	8.30	-7.76	15.10	-56.11 to 40.60	0.9535	-0.4	-0.3

SOD acute

Comparisons	Mean 1	SE 1	Mean 2	SE 2	Mean diff.	SE of diff.	95% CI of diff.	Adjusted *p* value	Cohen's d	Hedges' g
CTL vs. VPA	7.07	0.49	3.06	0.21	4.01	0.73	1.687 to 6.333	0.0025	4.5	3.6
CTL vs. M	7.07	0.49	5.39	0.65	1.68	0.73	-0.6463 to 4.000	0.1744	1.9	1.5
CTL vs. VPA+M	7.07	0.49	3.58	0.60	3.49	0.73	1.170 to 5.816	0.0058	3.9	3.1
M vs. VPA	3.06	0.65	5.39	0.21	-2.33	0.73	-4.656 to -0.01033	0.0490	-2.6	-2.1
M vs. VPA+M	5.39	0.65	3.58	0.60	1.82	0.73	-0.5063 to 4.140	0.1336	2.0	1.6
VPA vs. VPA+M	3.06	0.21	3.58	0.60	-0.52	0.73	-2.840 to 1.806	0.8895	-0.6	-0.5

SOD chronic

Comparisons	Mean 1	SE 1	Mean 2	SE 2	Mean diff.	SE of diff.	95% CI of diff.	Adjusted *p* value	Cohen's d	Hedges' g
CTL vs. VPA	5.08	0.48	2.60	0.20	2.48	0.52	0.8226 to 4.131	0.0060	3.9	3.1

CTL vs. M	5.08	0.48	5.15	0.27	-0.08	0.52	-1.731 to 1.577	0.9987	-0.1	-0.1
CTL vs. VPA+M	5.08	0.48	3.45	0.43	1.62	0.52	-0.03072 to 3.277	0.0544	2.6	2.1
M vs. VPA	2.60	0.27	5.15	0.20	-2.55	0.52	-4.207 to -0.8993	0.0050	-4.0	-3.2
M vs. VPA+M	5.15	0.27	3.45	0.43	1.70	0.52	0.04595 to 3.354	0.0441	2.7	2.1
VPA vs. VPA+M	2.60	0.20	3.45	0.43	-0.85	0.52	-2.507 to 0.8007	0.4051	-1.3	-1.1

GPx acute

Comparisons	Mean 1	SE 1	Mean 2	SE 2	Mean diff.	SE of diff.	95% CI of diff.	Adjusted *p* value	Cohen's d	Hedges' g
CTL vs. VPA	69.00	1.92	55.26	8.80	13.74	6.85	-8.200 to 35.68	0.2622	1.6	1.3
CTL vs. M	69.00	1.92	67.33	3.32	1.67	6.85	-20.27 to 23.61	0.9945	0.2	0.2
CTL vs. VPA+M	69.00	1.92	78.89	1.33	-9.89	6.85	-31.83 to 12.05	0.5096	-1.2	-0.9
M vs. VPA	55.26	3.32	67.33	8.80	-12.07	6.85	-34.01 to 9.866	0.3556	-1.4	-1.2
M vs. VPA+M	67.33	3.32	78.89	1.33	-11.56	6.85	-33.50 to 10.38	0.3890	-1.4	-1.1
VPA vs. VPA+M	55.26	8.80	78.89	1.33	-23.63	6.85	-45.57 to -1.690	0.0354	-2.8	-2.3

GPx chronic

Comparisons	Mean 1	SE 1	Mean 2	SE 2	Mean diff.	SE of diff.	95% CI of diff.	Adjusted *p* value	Cohen's d	Hedges' g
CTL vs. VPA	74.24	4.00	81.85	3.22	-7.60	5.34	-24.69 to 9.480	0.5193	-1.2	-0.9
CTL vs. M	74.24	4.00	96.08	3.71	-21.84	5.34	-38.92 to -4.753	0.0147	-3.3	-2.7
CTL vs. VPA+M	74.24	4.00	99.10	4.10	-24.86	5.34	-41.94 to -7.773	0.0071	-3.8	-3.0
M vs. VPA	81.85	3.71	96.08	3.22	-14.23	5.34	-31.32 to 2.850	0.1062	-2.2	-1.7
M vs. VPA+M	96.08	3.71	99.10	4.10	-3.02	5.34	-20.10 to 14.06	0.9394	-0.5	-0.4
VPA vs. VPA+M	81.85	3.22	99.10	4.10	-17.25	5.34	-34.34 to -0.1699	0.0478	-2.6	-2.1

GST acute

Comparisons	Mean 1	SE 1	Mean 2	SE 2	Mean diff.	SE of diff.	95% CI of diff.	Adjusted *p* value	Cohen's d	Hedges' g
CTL vs. VPA	15.13	0.89	7.51	0.45	7.62	1.06	4.215 to 11.03	0.0004	5.9	4.7
CTL vs. M	15.13	0.89	14.66	0.97	0.47	1.06	-2.932 to 3.878	0.9687	0.4	0.3
CTL vs. VPA+M	15.13	0.89	7.02	0.57	8.11	1.06	4.702 to 11.51	0.0003	6.2	5.0
M vs. VPA	7.51	0.97	14.66	0.45	-7.15	1.06	-10.55 to -3.742	0.0007	-5.5	-4.4
M vs. VPA+M	14.66	0.97	7.02	0.57	7.63	1.06	4.228 to 11.04	0.0004	5.9	4.7
VPA vs. VPA+M	7.51	0.45	7.02	0.57	0.49	1.06	-2.918 to 3.892	0.9662	0.4	0.3

GST chronic

Comparisons	Mean 1	SE 1	Mean 2	SE 2	Mean diff.	SE of diff.	95% CI of diff.	Adjusted *p* value	Cohen's d	Hedges' g
CTL vs. VPA	13.48	0.19	6.15	0.43	7.34	0.48	5.785 to 8.889	<0.0001	12.4	9.9
CTL vs. M	13.48	0.19	9.58	0.38	3.91	0.48	2.355 to 5.459	0.0002	6.6	5.3
CTL vs. VPA+M	13.48	0.19	7.88	0.32	5.60	0.48	4.048 to 7.152	<0.0001	9.4	7.5
M vs. VPA	6.15	0.38	9.58	0.43	-3.43	0.48	-4.982 to -1.878	0.0005	-5.8	-4.6
M vs. VPA+M	9.58	0.38	7.88	0.32	1.69	0.48	0.1412 to 3.245	0.0333	2.9	2.3
VPA vs. VPA+M	6.15	0.43	7.88	0.32	-1.74	0.48	-3.289 to -0.1845	0.0294	-2.9	-2.3

Glucose acute

Comparisons	Mean 1	SE 1	Mean 2	SE 2	Mean diff.	SE of diff.	95% CI of diff.	Adjusted *p* value	Cohen's d	Hedges' g
CTL vs. VPA	11.27	0.19	11.23	0.15	0.03	0.31	-0.9737 to 1.040	0.9995	0.1	0.1
CTL vs. M	11.27	0.19	13.33	0.26	-2.07	0.31	-3.074 to -1.060	0.0008	-5.4	-4.3
CTL vs. VPA+M	11.27	0.19	12.47	0.27	-1.20	0.31	-2.207 to -0.1930	0.0214	-3.1	-2.5
M vs. VPA	11.23	0.26	13.33	0.15	-2.10	0.31	-3.107 to -1.093	0.0007	-5.5	-4.4
M vs. VPA+M	13.33	0.26	12.47	0.27	0.87	0.31	-0.1404 to 1.874	0.0939	2.3	1.8
VPA vs. VPA+M	11.23	0.15	12.47	0.27	-1.23	0.31	-2.240 to -0.2263	0.0185	-3.2	-2.6

Glucose chronic

Comparisons	Mean 1	SE 1	Mean 2	SE 2	Mean diff.	SE of diff.	95% CI of diff.	Adjusted *p* value	Cohen's d	Hedges' g
CTL vs. VPA	11.43	0.09	11.80	0.10	-0.37	0.38	-1.588 to 0.8551	0.7743	-0.8	-0.6

CTL vs. M	11.43	0.09	12.70	0.10	-1.27	0.38	-2.488 to -0.04491	0.0424	-2.7	-2.2
CTL vs. VPA+M	11.43	0.09	12.40	0.51	-0.97	0.38	-2.188 to 0.2551	0.1282	-2.1	-1.7
M vs. VPA	11.80	0.10	12.70	0.10	-0.90	0.38	-2.122 to 0.3218	0.1634	-1.9	-1.5
M vs. VPA+M	12.70	0.10	12.40	0.51	0.30	0.38	-0.9218 to 1.522	0.8587	0.6	0.5
VPA vs. VPA+M	11.80	0.10	12.40	0.51	-0.60	0.38	-1.822 to 0.6218	0.4433	-1.3	-1.0

ALT acute

Comparisons	Mean 1	SE 1	Mean 2	SE 2	Mean diff.	SE of diff.	95% CI of diff.	Adjusted *p* value	Cohen's d	Hedges' g
CTL vs. VPA	0.20	0.00	0.23	0.06	-0.04	0.07	-0.2724 to 0.1964	0.9521	-0.4	-0.3
CTL vs. M	0.20	0.00	0.24	0.06	-0.05	0.07	-0.2810 to 0.1877	0.9169	-0.5	-0.4
CTL vs. VPA+M	0.20	0.00	0.24	0.06	-0.05	0.07	-0.2820 to 0.1867	0.9122	-0.5	-0.4
M vs. VPA	0.23	0.06	0.24	0.06	-0.01	0.07	-0.2430 to 0.2257	0.9994	-0.1	-0.1
M vs. VPA+M	0.24	0.06	0.24	0.06	0.00	0.07	-0.2354 to 0.2334	>0.9999	0.0	0.0
VPA vs. VPA+M	0.23	0.06	0.24	0.06	-0.01	0.07	-0.2440 to 0.2247	0.9991	-0.1	-0.1

ALT chronic

Comparisons	Mean 1	SE 1	Mean 2	SE 2	Mean diff.	SE of diff.	95% CI of diff.	Adjusted *p* value	Cohen's d	Hedges' g
CTL vs. VPA	0.18	0.00	0.43	0.06	-0.25	0.06	-0.4340 to -0.06336	0.0112	-3.5	-2.8
CTL vs. M	0.18	0.00	0.18	0.00	0.01	0.06	-0.1800 to 0.1906	0.9997	0.1	0.1
CTL vs. VPA+M	0.18	0.00	0.24	0.06	-0.05	0.06	-0.2390 to 0.1316	0.7916	-0.8	-0.6
M vs. VPA	0.43	0.00	0.18	0.06	0.25	0.06	0.06870 to 0.4393	0.0100	3.6	2.9
M vs. VPA+M	0.18	0.00	0.24	0.06	-0.06	0.06	-0.2443 to 0.1263	0.7434	-0.8	-0.7
VPA vs. VPA+M	0.43	0.06	0.24	0.06	0.20	0.06	0.009695 to 0.3803	0.0395	2.8	2.2

AST acute

Comparisons	Mean 1	SE 1	Mean 2	SE 2	Mean diff.	SE of diff.	95% CI of diff.	Adjusted *p* value	Cohen's d	Hedges' g
CTL vs. VPA	1.18	0.14	1.66	0.06	-0.48	0.13	-0.8976 to -0.05772	0.0271	-3.0	-2.4
CTL vs. M	1.18	0.14	1.22	0.08	-0.04	0.13	-0.4569 to 0.3829	0.9916	-0.2	-0.2
CTL vs. VPA+M	1.18	0.14	1.24	0.08	-0.05	0.13	-0.4739 to 0.3659	0.9749	-0.3	-0.3
M vs. VPA	1.66	0.08	1.22	0.06	0.44	0.13	0.02072 to 0.8606	0.0401	2.7	2.2
M vs. VPA+M	1.22	0.08	1.24	0.08	-0.02	0.13	-0.4369 to 0.4029	0.9992	-0.1	-0.1
VPA vs. VPA+M	1.66	0.06	1.24	0.08	0.42	0.13	0.003720 to 0.8436	0.0480	2.6	2.1

AST chronic

Comparisons	Mean 1	SE 1	Mean 2	SE 2	Mean diff.	SE of diff.	95% CI of diff.	Adjusted *p* value	Cohen's d	Hedges' g
CTL vs. VPA	1.54	0.12	1.77	0.06	-0.23	0.11	-0.5810 to 0.1156	0.2200	-1.7	-1.4
CTL vs. M	1.54	0.12	1.42	0.07	0.12	0.11	-0.2293 to 0.4673	0.7027	0.9	0.7
CTL vs. VPA+M	1.54	0.12	1.50	0.04	0.04	0.11	-0.3100 to 0.3866	0.9839	0.3	0.2
M vs. VPA	1.77	0.07	1.42	0.06	0.35	0.11	0.003373 to 0.7000	0.0479	2.6	2.1
M vs. VPA+M	1.42	0.07	1.50	0.04	-0.08	0.11	-0.4290 to 0.2676	0.8777	-0.6	-0.5
VPA vs. VPA+M	1.77	0.06	1.50	0.04	0.27	0.11	-0.07729 to 0.6193	0.1360	2.0	1.6

LDH acute

Comparisons	Mean 1	SE 1	Mean 2	SE 2	Mean diff.	SE of diff.	95% CI of diff.	Adjusted *p* value	Cohen's d	Hedges' g
CTL vs. VPA	8.45	0.40	8.47	0.27	-0.02	0.50	-1.621 to 1.580	>0.9999	0.0	0.0
CTL vs. M	8.45	0.40	8.29	0.34	0.17	0.50	-1.434 to 1.767	0.9863	0.3	0.2
CTL vs. VPA+M	8.45	0.40	7.62	0.39	0.83	0.50	-0.7674 to 2.434	0.3981	1.4	1.1
M vs. VPA	8.47	0.34	8.29	0.27	0.19	0.50	-1.414 to 1.788	0.9809	0.3	0.2
M vs. VPA+M	8.29	0.34	7.62	0.39	0.67	0.50	-0.9341 to 2.267	0.5691	1.1	0.9
VPA vs. VPA+M	8.47	0.27	7.62	0.39	0.85	0.50	-0.7471 to 2.454	0.3795	1.4	1.1

LDH chronic

Comparisons	Mean 1	SE 1	Mean 2	SE 2	Mean diff.	SE of diff.	95% CI of diff.	Adjusted *p* value	Cohen's d	Hedges' g
CTL vs. VPA	4.58	0.42	5.88	0.12	-1.30	0.36	-2.454 to -0.1531	0.0276	-3.0	-2.4

CTL vs. M	4.58	0.42	5.07	0.18	-0.49	0.36	-1.644 to 0.6566	0.5468	-1.1	-0.9
CTL vs. VPA+M	4.58	0.42	5.18	0.18	-0.60	0.36	-1.754 to 0.5466	0.3919	-1.4	-1.1
M vs. VPA	5.88	0.18	5.07	0.12	0.81	0.36	-0.3406 to 1.960	0.1885	1.8	1.5
M vs. VPA+M	5.07	0.18	5.18	0.18	-0.11	0.36	-1.260 to 1.040	0.9893	-0.3	-0.2
VPA vs. VPA+M	5.88	0.12	5.18	0.18	0.70	0.36	-0.4506 to 1.850	0.2823	1.6	1.3

ABTS acute

Comparisons	Mean 1	SE 1	Mean 2	SE 2	Mean diff.	SE of diff.	95% CI of diff.	Adjusted *p* value	Cohen's d	Hedges' g
CTL vs. VPA	313.10	6.71	338.30	5.20	-25.23	13.10	-67.18 to 16.73	0.2904	-1.6	-1.3
CTL vs. M	313.10	6.71	338.30	12.63	-25.23	13.10	-67.18 to 16.73	0.2904	-1.6	-1.3
CTL vs. VPA+M	313.10	6.71	335.80	10.57	-22.73	13.10	-64.68 to 19.22	0.3675	-1.4	-1.1
M vs. VPA	338.30	12.63	338.30	5.20	0.00	13.10	-41.95 to 41.95	>0.9999	0.0	0.0
M vs. VPA+M	338.30	12.63	335.80	10.57	2.50	13.10	-39.45 to 44.45	0.9973	0.2	0.1
VPA vs. VPA+M	338.30	5.20	335.80	10.57	2.50	13.10	-39.45 to 44.45	0.9973	0.2	0.1

ABTS chronic

Comparisons	Mean 1	SE 1	Mean 2	SE 2	Mean diff.	SE of diff.	95% CI of diff.	Adjusted *p* value	Cohen's d	Hedges' g
CTL vs. VPA	355.50	8.70	357.90	3.46	-2.41	12.34	-41.91 to 37.10	0.9971	-0.2	-0.1
CTL vs. M	355.50	8.70	378.30	11.46	-22.73	12.34	-62.23 to 16.78	0.3224	-1.5	-1.2
CTL vs. VPA+M	355.50	8.70	398.20	9.23	-42.63	12.34	-82.14 to -3.127	0.0351	-2.8	-2.3
M vs. VPA	357.90	11.46	378.30	3.46	-20.32	12.34	-59.83 to 19.18	0.4073	-1.3	-1.1
M vs. VPA+M	378.30	11.46	398.20	9.23	-19.90	12.34	-59.41 to 19.60	0.4235	-1.3	-1.1
VPA vs. VPA+M	357.90	3.46	398.20	9.23	-40.22	12.34	-79.73 to -0.7201	0.0461	-2.7	-2.1

Abbreviations**:** ABTS, 2,2′-azino-bis(3-ethylbenzothiazoline-6-sulfonic acid); ALT, alanine aminotransferase; ANOVA, analysis of variance; AST, aspartate aminotransferase; CAT, catalase; CI, confidence interval; CTL, control; diff., difference; GPx, glutathione

peroxidase; GST, glutathione S-transferase; H_2O_2, hydrogen peroxide; LDH, lactate dehydrogenase; M, black mulberry extract; SE, standard error; SOD, superoxide dismutase; VPA, valproic acid; VPA+M, combined valproic acid and black mulberry extract treatment.