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Pterostilbene Raises Low Density Lipoprotein Cholesterol in People

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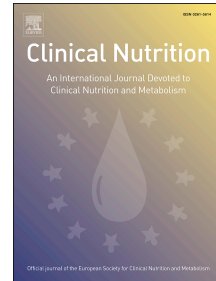
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1 **Letter to the Editor**

2 **Pterostilbene Raises Low Density Lipoprotein Cholesterol in People**

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11 **Keywords**

12 pterostilbene, low density lipoprotein cholesterol, sirtuin 1, nicotinamide riboside, polyphenol

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15 Resveratrol and pterostilbene are polyphenolic compounds found in fruits and nuts. Though
16 resveratrol does not depend on sirtuin 1 for its metabolic effects (1, 2) and pterostilbene has not
17 been shown to bind to sirtuin 1, Elysium Health combines nicotinamide riboside (NR) (3) with
18 pterostilbene with the expressed purpose of increasing sirtuin 1 activity by a combined mechanism
19 (4). The literature indicates that sirtuin 1 activators would be expected to improve lipid
20 management (5, 6). However, as summarized in Table 1, daily administration of NR plus
21 pterostilbene produced a dose-dependent and clinically statistically significant increase in total
22 cholesterol driven entirely by increased low density lipoprotein cholesterol (LDL-C) (4). The
23 authors did not release their primary data for independent assessment of significance and did not
24 disclose results previously reported for pterostilbene (7) that are wholly consistent with the
25 study's finding of what is clearly a clinically meaningful increase in LDL-C. While the authors cite
26 this study to point out the earlier observation that pterostilbene reduced blood pressure, they
27 neglected to cite clinically meaningful increases in LDL-C for treatment groups receiving 100 mg or
28 250 mg daily pterostilbene for 6 – 8 weeks (Table 1) as well as significantly decreased high density
29 lipoprotein cholesterol in subjects who were not taking statins (7). These data are inconsistent
30 with pterostilbene as a sirtuin 1 activator and raise important questions about the safety of
31 pterostilbene supplementation considering the importance of controlling LDL-C to cardiovascular
32 health (8, 9). Significantly, three clinical studies of NR alone (without pterostilbene) at higher doses
33 than tested in the Elysium Health study established safety and showed no increase in LDL-C (10-
34 12).

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37 **Table 1 Pterostilbene elevates LDL-C**

Pterostilbene dose (mg/day)	Placebo-corrected increase in LDL-C (mg/dl)	P-value
100 (7)	20.0	0.006
250 (7)	19.7	0.007
50 with 250 mg NR (4)	5.4	≤0.05
100 with 500 mg NR (4)	14.7	≤0.05

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