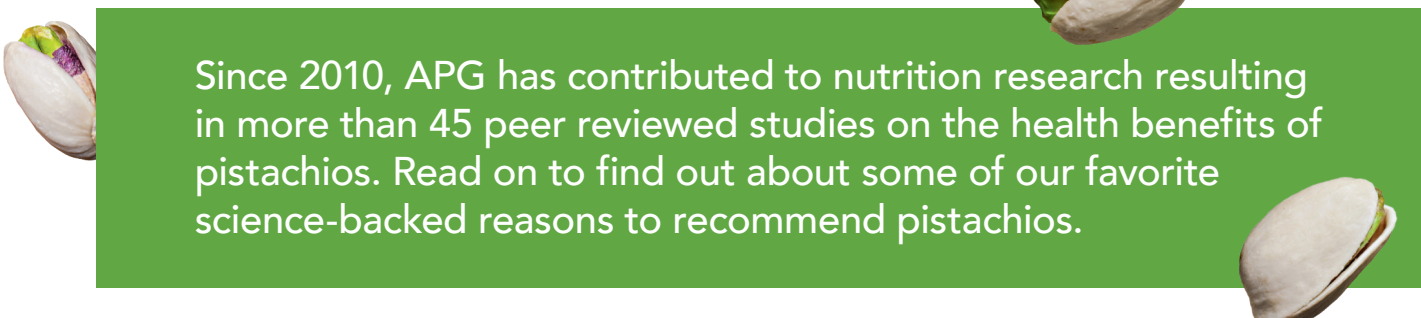




# THE SCIENCE-BACKED BENEFITS OF AMERICAN PISTACHIOS

## *Research Overview*



Since 2010, APG has contributed to nutrition research resulting in more than 45 peer reviewed studies on the health benefits of pistachios. Read on to find out about some of our favorite science-backed reasons to recommend pistachios.



### ANTIOXIDANTS

Pistachios have many different forms of antioxidants, including gamma-tocopherol (vitamin E), polyphenols and the carotenoids lutein and zeaxanthin. The antioxidant capacity of pistachios rivals that of foods most commonly thought of as high in antioxidants, including blueberries, pomegranates and red wine.

According to new research, pistachios are very high in antioxidants and studies also show that eating pistachios increases the level of antioxidants in the blood while decreasing markers of oxidative stress.<sup>2</sup>



### SOURCE OF COMPLETE PROTEIN

Researchers recently looked at the protein quality of American-grown pistachios and found that it qualifies as a complete protein.<sup>3</sup> Pistachios contain all nine essential amino acids needed for growth and development for those ages five and older and are one of the few plant-based sources of complete protein.



### WEIGHT MANAGEMENT

Pistachios contain healthy fat and are a good source of fiber. Research suggests that people on a weight loss plan can eat pistachios as a calorie-controlled snack and still lose weight.<sup>3</sup> Additionally, a PREDIMED cross-sectional study on over 7,000 people found that those who ate more than three servings of nuts per week, including pistachios, had a lower incidence of obesity.<sup>4</sup> Recent studies have also shown that snacking on pistachios does not lead to weight gain and instead results in an increase in some key nutrient intakes.<sup>6,7</sup>



## DIABETES

Research has shown that women with prediabetes and gestational diabetes had a lower increase in blood sugar after eating pistachios when compared to eating whole wheat bread.<sup>8,9</sup> A research review found that 50-57 grams of pistachios daily for 1-4 months may lead to improved fasting glucose, fasting insulin and insulin resistance.<sup>10</sup> Not only are pistachios a low-carbohydrate food with fat, fiber and protein (all of which can slow gastric emptying and help decrease blood sugar spikes after eating) but researchers believe the flavonoid content of pistachios may also contribute to the anti-diabetic effect of pistachios.<sup>11</sup>



## HEART HEALTH

Scientific evidence suggests, but does not prove, that eating 1.5 ounces per day of most nuts, such as pistachios, as part of a diet low in saturated fat and cholesterol may lower the risk of heart disease. Numerous studies have looked at the effect of pistachios on heart health and found that eating pistachios daily (1 – 3 ounces) may help to reduce risk factors for heart disease, including blood pressure and arterial stiffness.<sup>13,14,15</sup>



## SPORTS NUTRITION

Pistachios may help to reduce delayed onset of muscle soreness while helping to maintain muscle strength, according to emerging research in elite athletes.<sup>16</sup>



## ANTI-MICROBIAL PROPERTIES

In vitro research has shown that pistachio extracts have a strong anti-bacterial and anti-viral activity. Specifically, pistachio extracts were effective in killing *Listeria monocytogenes*, *Staphylococcus aureus* and MRSA. Additionally, pistachio polyphenol-rich extracts were found to have remarkable inhibitory activity against herpes simplex virus type 1.<sup>17</sup>

For more information on the health benefits of pistachios, visit: <https://americanpistachios.org/nutrition-and-health>.



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- <sup>3</sup> 2 Bailey, H. M., & Stein, H. H. (2020). Raw and roasted pistachio nuts (*Pistacia vera* L) are "Good" sources of protein based on their digestible indispensable amino acid score (DIAAS) as determined in pigs. *Journal of the Science of Food and Agriculture*. <https://doi.org/10.1002/jsfa.10429>
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- <sup>5</sup> barrola-Jurado N, et al. Cross-sectional assessment of nut consumption and obesity, metabolic syndrome and other cardiometabolic risk factors: The PREDIMED study. *PLOS ONE*. 2013;8(2):e57367.
- <sup>6</sup> Bellisle, France, F, et al. A randomized controlled pilot study to assess effects of a daily pistachio (*Pistacia vera*) afternoon gouter on next meal energy intake, satiety and anthropometry in healthy women. *JFN2017/1230*. *Nutrients* 2019, 11, 767; doi:10.3390/nu11040767
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- <sup>10</sup> Ribeiro P.V.M., Silva A., Almeida A.P., Hermsdorff H.H., Alfenas R.C. Effect of chronic consumption of pistachios (*Pistacia vera* L.) on glucose metabolism in pre-diabetics and type 2 diabetics: A systematic review. *Crit. Rev. Food Sci. Nutr*. 2019;59:1115–1123. doi: 10.1080/10408398.2017.1392290.
- <sup>11</sup> Mandalari G, Barreca D, Gervasi T, Roussel MA, Klein B, Feeney MJ, Carughi A. Pistachio Nuts (*Pistacia vera* L.): Production, Nutrients, Bioactives and Novel Health Effects. *Plants (Basel)*. 2021 Dec 22;11(1):18. doi: 10.3390/plants11010018. PMID: 35009022; PMCID: PMC8747606.
- <sup>12</sup> FDA Qualified Health Claim, Approved 2003
- <sup>13</sup> Effect of pistachio nut consumption on endothelial function and arterial stiffness. Kasliwal RR, Bansal M, Mehrotra R, Yephtho KP, Trehan N. *Nutrition*. 2015 May;31(5):678-85. doi: 10.1016/j.nut.2014.10.019. Epub 2014 Nov 7
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