



**Pomegranate extract** is rich with phytonutrients known to provide multiple health benefits, including: 1) strong antioxidant properties;<sup>1,2</sup> 2) appropriate immune response;<sup>3,4</sup> 3) support of cardiovascular health;<sup>5,6</sup> and 5) the ellagic acid component potentiates the benefits of quercetin,<sup>7</sup> and interacts synergistically with resveratrol.<sup>8</sup>

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<sup>1</sup> **In vitro antiproliferative, apoptotic and antioxidant activities of punicalagin, ellagic acid and a total pomegranate tannin extract are enhanced in combination with other polyphenols as found in pomegranate juice.** Seeram NP, Adams LS, Henning SM, et al. J Nutr Biochem. 2005 Jun;16(6):360-7. <http://www.ncbi.nlm.nih.gov/pubmed/15936648>

<sup>2</sup> **Protective effect of pomegranate-derived products on UVB-mediated damage in human reconstituted skin.** Afaq F, Zaid MA, Khan N, et al. Exp Dermatol. 2009 Mar 3. <http://www.ncbi.nlm.nih.gov/pubmed/19320737>

<sup>3</sup> **Immune-suppressive activity of punicalagin via inhibition of NFAT activation.** Lee SI, Kim BS, Kim KS, et al. Biochem Biophys Res Commun. 2008 Jul 11;371(4):799-803. <http://www.ncbi.nlm.nih.gov/pubmed/18466764>

<sup>4</sup> **The flavonoid ellagic acid from a medicinal herb inhibits host immune tolerance induced by the hepatitis B virus-e antigen.** Kang EH, Kwon TY, Oh GT, et al. Antiviral Res. 2006 Nov;72(2):100-6. <http://www.ncbi.nlm.nih.gov/pubmed/16720052>

<sup>5</sup> **Pomegranate juice: a heart-healthy fruit juice.** Basu A, Penugonda K. Nutr Rev. 2009 Jan;67(1):49-56. <http://www.ncbi.nlm.nih.gov/pubmed/19146506>

<sup>6</sup> **Pomegranate fruit components modulate human thrombin.** Cuccioloni M, Mozzicafreddo M, Sparapani L, et al. Fitoterapia. 2009 Apr 6. <http://www.ncbi.nlm.nih.gov/pubmed/19358882>

<sup>7</sup> **Ellagic acid potentiates the effect of quercetin on p21waf1/cip1, p53, and MAP-kinases without affecting intracellular generation of reactive oxygen species in vitro.** Mertens-Talcott SU, Bomser JA, Romero C, et al. J Nutr. 2005 Mar;135(3):609-14. <http://www.ncbi.nlm.nih.gov/pubmed/15735102>; Free full text: <http://jn.nutrition.org/cgi/content/full/135/3/609>

<sup>8</sup> **Ellagic acid and quercetin interact synergistically with Resveratrol in the induction of apoptosis and cause transient cell cycle arrest in human leukemia cells.** Mertens-Talcott S, Percival S. Cancer Lett. 2005 Feb 10;218(2):141-51. <http://www.ncbi.nlm.nih.gov/pubmed/15670891>