

Research Data on Anti Inflammatory Health Benefit of Blackcurrant Extract Powder

Research information applies to Blackcurrant Extract Powder

Title	Research team	Overview	Source
<p>Blackcurrant phenolic extract induces hemeoxygenase-1 expression in lung epithelium; involvement in the suppression of Th2 cytokine-induced CCL26 expression</p>	<p>-HortResearch -New Zealand http://www.hortresearch.co.nz/</p> <p>Full technical information would be provided by JTBDP</p>	<p>The research suggests that the Blackcurrant phenolic extract upregulates HSP32/HO-1 in lung epithelial cells, which may serve to modulate Th2 cytokines (IL-4/IL-13)-induced eosinophilic inflammation. Fruits or derived functional foods from New Zealand blackcurrants may be beneficial in alleviating airway inflammation.</p>	<p>Blackcurrat Extract powder (Phenolic)</p>
<p>Study the effect of Cassis Anthomix(Blackcurrant extract powder) on the growth of beneficial lactic acid bacteria and on risk markers for colon cancer in rats</p>	<p>-Dr. Abdul Molan -Massey University -Just the Berries -New Zealand -2009 http://www.massey.ac.nz/</p> <p>Full technical information would be provided by JTBDP</p>	<p>Under the present experimental conditions, this study showed that C-Anthomix can decrease the activity of β-glucuronidase being considered to be one of the enzymes that increase risk for colorectal cancer and increase the activity of β-glucosidase.</p> <p>The study has identified C-Anthomix as a good prebiotic that can significantly promote the growth of friendly bacteria such as bifidobacteria and lactobacilli and lower the numbers of undesirable bacteria such as bacteroides and clostridia in the cecum of rats.</p>	<p>Blackcurrat Extract powder (Anthocyanin)</p>

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<p>Short-term blackcurrant extract consumption modulates exercise-induced oxidative stress and lipopolysaccharide-stimulated inflammatory responses</p>	<p>-K.A. Lyall -The New Zealand Institute for Plant and Food Research, Ltd. -New Zealand -2009 http://www.plantandfood.co.nz/ http://www.plantandfood.co.nz/page/home/landing-pages/berryfruit-industry/ http://ajpregu.physiology.org/cgi/reprint/90740.2008v1</p>	<p>Blackcurrant Anthocyanin extract administration suppressed exercise-induced oxidative stress and inhibited LPS-stimulated cytokine secretion, specifically TNF-α, IL6, and NF-κB activation, in plasma and THP-1 cells. 10 healthy volunteers received 240mg Blackcurrant Anthocyanin (120mg before and after exercise) or a placebo and engaged in 30 minutes of rowing daily for 3 weeks. Venous blood samples were collected prior to the first supplementation as well as immediately following the exercise and second supplementation. Post-exercise plasma values demonstrated that BC Anthocyanin greatly suppressed TNF-α secretion, and thus prevented an inflammatory response early on. Decreased levels of IL-6 confirmed this finding. In vitro testing demonstrated that pre-incubation of isolated THP-1 cells with H₂O₂ prior to extract exposure caused a greater suppression of LPS-stimulated TNF-α and IL-6 secretion after 24 hours. This was not evident when cells were simultaneously incubated with H₂O₂ and the extract.</p>	<p>Blackcurrant Extract powder (Anthocyanin)</p>

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<p>Anthocyanins Inhibit Nuclear Factor-KB Activation in Monocytes and Reduce Plasma Concentrations of Pro-Inflammatory Mediators in Healthy Adults.</p>	<p>-Anette Karlsen -University of Oslo -Norway -2007 http://www.uio.no/ http://www.biolink.no/getfile.php/Filer/Dokumenter/Artikkel-Journ-of-Nutr-jun-2007.pdf</p>	<p>Supplementation of 59 healthy adults with Blackcurrant Anthocyanin (300mg/d) for 3 weeks inhibited LPS-induced NF-KB transactivation and decreased plasma concentrations of pro-inflammatory chemokines, cytokines, and inflammatory mediators. Dampening NF-KB, which coordinates the inflammatory response, hence limiting inflammation, was previously suggested to be a potential strategy to prevent chronic inflammatory diseases, and this study reconfirmed this believe. Besides the clinical trial with humans, the researchers also tested on individual human monocytic cells. The cell culture experiment results were in agreement with the findings of the human trial. Decreased levels of NF-KB controlled pro-inflammatory chemokines IL-8 and RANTES, and IFNα, an inducer of NF-KB activation, in the Anthocyanin-treated group most significantly differed from the placebo group. IL-2, IL-4, IL-13, TNF-α, and MCP-1 levels in the Anthocyanin group were also much lower than in the placebo group.</p>	<p>Blackcurrant Extract powder (Anthocyanin)</p>

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<p>Blackcurrant Proanthocyanins Augment IFN-gamma-induced Suppression of IL-4 Stimulated CCL26 Secretion in Alveolar Epithelial Cells.</p>	<p>-Hurst SM, McGhie TK -The Plant and Food Research Institute of New Zealand Ltd. -New Zealand -2010 http://www.plantandfood.co.nz/ http://www.ncbi.nlm.nih.gov/pubmed/20229526 Full technical information would be provided by JTBDP</p>	<p>This study by the Plant & Food Research, New Zealand, examined the effects of anthocyanidin-rich BC extract on cells from inflamed lung tissue. The researchers focused on blackcurrant's effectiveness on CCL26 secretion, which is expressed in the lungs after stimulation of the cells by cytokine IL-4 . The testing data indicated that proanthocyanin-enriched BC extract, but not anthocyanin-enriched BC extract suppressed both IL-4 and IL-13-stimulated CCL26 secretion in a dose-dependent matter. According to the findings, epigallocatechin worked in conjunction with other natural immune responses to suppress CCL26 expression, and therefore inflammation. It was found that blackcurrant controlled the unregulated inflammation, and assisted the body's natural abilities to fight that inflammation.</p>	<p>Blackcurrant Extract powder (Anthocyanin)</p>

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<p>Cyanidin-3-rutinoside, a Natural Polyphenol Antioxidant, Selectively Kills Leukemic Cells by Induction of Oxidative Stress</p>	<p>-Rentian Feng -University of Pittsburgh -2007 http://www.pitt.edu/ http://www.jbc.org/content/282/18/13468.full</p>	<p>Cyanidin-3-rutinoside induced apoptosis in HL-60 cells in a dose- and time-dependent manner. In addition, cyanidin-3-rutinoside treatment resulted in reactive oxygen species (ROS)-dependent activation of p38 MAPK and JNK, which contributed to cell death by activating the mitochondrial pathway mediated by Bim. Down-regulation of Bim or overexpression of Bcl-2 or Bcl-x_L considerably blocked apoptosis. Notably, cyanidin-3-rutinoside treatment did not lead to increased ROS accumulation in normal human peripheral blood mononuclear cells and had no cytotoxic effects on these cells.</p>	<p>Blackcurrant Extract powder (Anthocyanin)</p>

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<p>Effects of anthocyanins and other phenolics of boysenberry and blackcurrant as inhibitors of oxidative stress and damage to cellular DNA in SH-SY5Y and HL-60 cell</p>	<p>-Dilip Ghosh -The Horticulture and Food Research Institute of New Zealand Ltd. -New Zealand -2006 http://www.hortresearch.co.nz/ http://www3.interscience.wiley.com/journal/112257860/abstract</p> <p>Full technical information would be provided by JTBDP</p>	<p>Blackcurrant Anthocyanins and Phenolics demonstrated significant protective effects against H₂O₂-induced neurotoxicity, oxidative stress, and DNA damage. HL-60 human promyelocytic cells incubated with 0.25 and 0.125 µg mL⁻¹ Blackcurrant Anthocyanins or Phenolics for 24 hours prior to exposure with H₂O₂ showed significantly reduced comet sizes, which demonstrated less DNA damage. In addition, the Blackcurrant fractions also demonstrated protective effects against H₂O₂-induced oxidative stress in SH-SY5Y human neuroblastoma cells. The concurrent addition of the Blackcurrant components at varying doses from 0.065 to 0.5 µg mL⁻¹ significantly inhibited the increase in intracellular reactive oxygen species (ROS) production. It is known that high ROS levels can cause significant damage to cell structures like DNA. Thus, the suppression of a drastic rise is very important. Pre-incubation had no effect on the ROS levels. The testing results also demonstrated that Blackcurrant Anthocyanins and Phenolics at concentrations ranging from 0.075 to 0.25 µg mL⁻¹ provided high degrees of neuroprotection against H₂O₂-induced toxicity. These findings are very substantial, considering the growing evidence of how oxidative stress is involved in various diseases.</p>	<p>Blackcurrant Extract powder (Anthocyanin, Phenolics)</p>

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Blackcurrant and Boysenberry fruit extract enhance the ability of IFN γ to suppress IL-4/IL-13-induced CCL26 expression in lung epithelial cells	-HortResearch -New Zealand http://www.hortresearch.co.nz/ Full technical information would be provided by JTBDP	The data shown in this research give mechanistic insights into the potential value of Blackcurrant and Boysenberry pr derived-functional foods that might be beneficial in alleviating airway inflammation.	Blackcurrat Extract powder (Phenolic)

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