



Research Summary

As of April 2006



greens+ Research Summary

Scientific investigations focused on **greens+** have demonstrated that this unique product has direct physiological influences on a variety of the body's systems. The results show that **greens+** improves long-term energy levels and boosts antioxidant levels. In addition, the combined ingredients have significant antioxidant activity (ORAC), work synergistically to alkalinize the body (PRAL), protect cells against toxic assault, and promote healthy bones. Only **greens+** with its high quality ingredients and unique blend of standardized herbs is research-proven to provide these results.

Research Overview (In Chronological Order)

Research #1 - In vitro research examines the influence of greens+ on human osteoblasts

Dr. Leticia Rao, et al. University of Toronto.

Main Outcome: In 2 separate studies, **greens+** was shown to directly influence the differentiation of human osteoblasts. In addition, **greens+** stimulated bone mineralization. In a follow-up study, the University of Toronto researchers confirmed that **greens+** stimulated osteoblasts and bone mineralization and uncovered at least one mechanism for the effects. It appears that the ingredients in **greens+** act synergistically to inhibit free radical production. Reactive oxygen species were shown to interfere with osteoblast differentiation and mineralization. The effects of **greens+** were stronger than that of individual antioxidants [e.g. epigallocatechin-gallate (EGCG) from green tea] alone. *First study was presented at the 26th Annual Meeting of the American Society of Bone and Mineral Research in Seattle, Washington, Oct 2-5, 2004. Second study was presented at the 27th Annual Meeting of the American Society of Bone and Mineral Research in Nashville, Tennessee, Sept 23-27, 2005.*

Research #2 - In vivo research confirms greens+ has a positive affect on increasing energy levels

Dr Heather Boon, et al. University of Toronto.

Main Outcome: In a randomized, double-blind, placebo-controlled study involving over 100 otherwise healthy Torontonians women, **greens+** was shown to significantly improve energy when taken over the course of three months vs. placebo. There were also statistical trends for improvement in mental health, well-being, and overall health among the **greens+** users. No adverse events. Study published in the *Canadian Journal of Dietetic Practice and Research 2004;65(2):66-71.*

Research #3 - In vitro and in vivo testing confirm the antioxidant capabilities of greens+

Dr Venket Rao, et al. University of Toronto.


Main Outcome: In the in vitro portion of the study, **greens+** was demonstrated to exert significant protection against oxidative damage in lipid cells. The in vitro portion also confirmed the presence of a variety of bioflavonoids within **greens+**. Following one month of human consumption in healthy volunteers, **greens+** significantly improved antioxidant status and prevented oxidative damage to both proteins and lipid components of cells. The flavonoids in **greens+** were documented to be well-absorbed in humans. No adverse events. Study published in the *Journal of Medicinal Foods, 2005.*

Research #4 - In vitro testing confirms greens+ has a beneficial affect on Potential Renal Acid Load (PRAL) i.e. pH alkalinizing abilities*

Enviro Test Laboratories, Edmonton.

Main Outcome: **greens+** has a negative score on the PRAL test, indicating that it is an alkaline food in the human body. According to published research, negative PRAL foods can help compensate for acidic foods (meats, grains), which have the potential to remove calcium from the bones. PRAL provides an estimate of the production of endogenous acid that exceeds the level of alkali produced for given amounts of foods ingested daily. The concept of PRAL calculation is physiologically based and takes into account different intestinal absorption rates of individual minerals and of sulfur-containing protein, as well as the amount of sulfate produced from metabolized proteins. This method of calculation was experimentally validated in healthy adults, and it showed that under controlled conditions, acid loads and renal net acid excretion (NAE) can be reliably estimated from diet composition (Remer, et al. *Am J Clin Nutr.* 2003 May;77(5):1255-60). **greens+** has double the alkalinity of spinach and raisins, the most negative PRAL foods.

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Research #5 - In vitro tests confirm greens+ has a significant ORAC value*

Brunswick Laboratories, Wareham, Massachusetts.

Main Outcome: Using testing developed by Tufts University and the US Department of Agriculture, **greens+** was shown to have significant dietary antioxidant potential based on the oxygen radical absorbance capacity (ORAC) scores. **greens+** had an ORAC score three-fold that of blueberries, a well-known antioxidant-rich food. (Unpublished data.)

Research #6 - In vitro tests confirm greens+ inhibits cancer cell growth*

Dr Najla Guthrie, et al. KGK Research Centre, London, Ontario

Main Outcome: In comparison to other green food products, researchers found that only **greens+** inhibited the growth of lung and colon cancer cells under experimental conditions. In addition, while all green food products inhibited breast cancer cell growth, only **greens+** had a highly significant effect in stopping the growth of skin cancer (melanoma) cells.

**Research was conducted with competitor comparisons*



abs+ Research Overview

Research #7 abs+ clinical trial to determine weight loss effects

Dr Kathee Andrews and Dr Venket Rao, University of Toronto.

Main Outcome: In a randomized, double-blind, placebo-controlled study, 34 adults over 30 years of age (BMI of 25 or more, waist circumference of 80cm or more for females and 94cm or more for males), were assigned randomly to either a control group who received six placebo capsules containing no active ingredients, or a treatment group who received six **abs+** capsules - each containing 567mg CLA and 45mg of EGCG for a total daily intake of 3,400mg CLA and 270mg EGCG. A significant reduction in the body weight of subjects ingesting **abs+** compared to placebo was observed: close to 60% of the subjects in the placebo group either *gained* weight or had no change during the course of the 12 weeks, whereas in the **abs+** group 70% of the subjects either *lost* weight or had no change in their body weight. Study has been submitted for publication 2006.



greens+ extra energy Research Overview

Research #8: greens+ extra energy clinical case reports on mood, energy and well-being

Dr Tracey Beaulne, Integrative Care Centre of Toronto, Ontario

Main Outcome: In a preliminary investigation, 5 adults complaining of fatigue (otherwise healthy) were asked to consume **greens+ extra energy** for one month while commenting on short-term and long-term response to the product. In addition, all subjects completed the Arizona Integrative Outcomes Scale (AIOS), a validated instrument which provides an assessment of overall well-being (including physical, mental, emotional, and spiritual condition) over the course of one month. At baseline, low energy was reported to be the primary reason for negative effects on the well-being score. All 5 subjects reported a lift in energy which was noted about 60-90 minutes after consumption. The energy was maintained for 4 to 5 hours according to all subjects. Based on the AIOS scores, subjects reported an average 56% improvement in overall physical, mental, emotional, social, and spiritual health. Given that the low energy of these subjects had negatively influenced the baseline scores, it is clear that the reported energy-boosting effects of **greens+ extra energy** translated into improved health and well-being. As a follow up, a controlled clinical trial is being planned.

Research in Progress:

- **greens+ daily detox** pilot study on objective human detox functioning - Dr. Tracey Beaulne, Toronto, Ontario.
- **o3mega+ joy** research on anxiety, schizophrenia/depression and appetite through the University of Toronto, University of Guelph and University of Pittsburg.
- **o3mega extra strength** study on heart rate regulation through the Institute of Cardiology at the University of Montreal.