

• TRUST YOUR GUT •

THE ROLE OF BACTERIA IN PROMOTING GUT HEALTH

The human gut or gastrointestinal tract (GI) plays a key role in promoting our overall health, with approximately 80 percent of immunity starting in the gut.¹ Researchers have hypothesized that almonds may have a prebiotic effect that can support gut health. They are conducting research to find answers to this question.

The human GI tract contains a complex environment of microflora, including bacteria that assist the body in absorbing nutrients, protecting us from bacterial infections and improving immunity. There are both “good” and “bad” bacteria in the GI tract and the body is in a balancing act, trying to ensure that there is just the right amount of “good” bacteria to maintain a healthy gut and body.²

Probiotics are friendly bacteria that feed on fiber, fat, and other nutrients, and act similarly to the healthy bacteria in the gut.² Prebiotics are non-digestible food substances that act as food for the healthy bacteria.³

CALIFORNIA ALMONDS: BEYOND HEART HEALTH

Some emerging research has examined the role almonds may play in gut health.

STUDY 1

- An in vitro study, using a model gut to digest almonds, examined the prebiotic effects of two types of almonds, finely ground and defatted finely ground, compared to commercial oligosaccharides (a recognized prebiotic).
- Researchers found that the finely ground almonds increased levels of two types of probiotics: bifidobacteria and eubacterium rectale.
- These preliminary results need to be replicated in human models before any conclusive links to improved gut health can be made.
- Read more about this study in the *Applied Environmental Microbiology* journal.⁴

STUDY 2

- Another in vitro study, using the same model gut as the study above, examined the role cell walls play in the bioaccessibility

of nutrients found in almonds, specifically lipid, protein, and vitamin E. Natural almonds, blanched almonds, finely ground, and defatted finely ground almonds were digested.

- Further research is still needed to expand upon the results of this preliminary study in order to better understand how this may impact human health.
- The complete research article can be found in the *Journal of Agriculture and Food Chemistry*.⁵

DIGESTIVE HEALTH & FIBER

While further research and examination are still needed to explore almonds and gut health, research has already established the important role of fiber in maintaining a healthy digestive tract by helping with regularity.

One ounce of crunchy California Almonds provides 3 grams of fiber, which is 12 percent of the recommended daily value of 25 grams.

1. Rosenbaum M. *Digestion & Immunity*. Revolution Health Access at <http://www.revolutionhealth.com/conditions/digestive/digestive-health/health-basics/digestion-immunity>. Oct 13, 2008.

2. *Get The Facts: An Introduction to Probiotics*. National Center for Complementary & Alternative Medicine. Accessed at <http://nccam.nih.gov/health/probiotics>. October 13, 2008.

3. Roberfroid MB. Probiotics and prebiotics: are they functional foods? *Am J Clin Nutr* 2000 June;71 (suppl):1682S-7S.

4. Mandalari G, Nueno-Palop C, Bisignano G, Wickham M.S.J. Potential prebiotic properties of almond seeds. *Appl Environ Microbiol* 2008 July;74, 4264-4270. <http://aem.asm.org/cgi/content/full/74/14/4264?view=long&pmid=18502914>.

5. Mandalari, G, Faulk, RM, Rich GT, Lo Turco V, Picout DR, Lo Curto RB, Bisignano G, Dugo P, Dugo G, Waldron KW, Ellis PR, Wickham MS. Release of protein, lipid, and vitamin E from almond seeds during digestion. *J Agric Food Chem* 2008 May 14;56(9):3409-16. Epub 2008 Apr 17. <http://pubs.acs.org/cgi-bin/abstract.cgi/jafcau/2008/56/i09/abs/jf073393v.html>.