

# New evidence that green tea may help improve bone health

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Green tea. Credit: Wikimedia Commons

Researchers in Hong Kong are reporting new evidence that green tea — one of the most popular beverages consumed worldwide and now available as a dietary supplement — may help improve bone health. They found that the tea contains a group of chemicals that can stimulate bone formation and help slow its breakdown. Their findings are in ACS' *Journal of Agricultural and Food Chemistry*.

The beverage has the potential to help in the prevention and treatment of osteoporosis and other [bone](#) diseases that affect million worldwide, the researchers suggest.

In the new study, Ping Chung Leung and colleagues note that many

scientific studies have linked tea to beneficial effects in preventing cancer, heart disease, and other conditions. Recent studies in humans and cell cultures suggest that tea may also benefit bone health. But few scientific studies have explored the exact chemicals in tea that might be responsible for this effect.

The scientists exposed a group of cultured bone-forming cells (osteoblasts) to three major [green tea](#) components — epigallocatechin (EGC), gallic catechin (GC), and gallic catechin gallate (GCG) — for several days. They found that one in particular, EGC, boosted the activity of a key enzyme that promotes bone growth by up to 79 percent. EGC also significantly boosted levels of [bone mineralization](#) in the cells, which strengthens bones. The scientists also showed that high concentrations of EGC blocked the activity of a type of cell (osteoclast) that breaks down or weakens bones. The green tea components did not cause any toxic effects to the [bone cells](#), they note.

More information: "Effects of Tea Catechins, Epigallocatechin, Gallic catechin, and Gallic catechin Gallate, on Bone Metabolism", [Journal of Agricultural and Food Chemistry](#)

Source: American Chemical Society ([news](#) : [web](#))

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