

Research leads to improved calcium supplement derived from crustacean shells

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According to the new study published in the *Journal of Bone and Mineral Research*, this type of Amorphous Calcium Carbonate (ACC) consists of unstable, nano-sized particles. Several species of crustaceans, including freshwater crayfish, are capable of stabilizing this mineral form so they can efficiently store and rapidly re-use large calcium quantities. Using new technology inspired by the crustaceans' natural process, the Ben-Gurion University of the Negev researchers tested this synthetic ACC compound against other commonly used calcium supplements. Results of experiments showed that the absorption and retention rates were up to 40 percent higher in the blood and 30 percent higher in bone when the ACC compound is compared to other calcium sources. Such dramatic enhancement in absorption may be useful in reducing the necessary dosage of calcium, lowering side effects and increasing a patient's compliance. Credit: Marganit Capaso/Amorphical

Ben-Gurion University of the Negev (BGU) researchers have developed a unique technology that stabilizes an otherwise unstable form of calcium carbonate. This mineral form provides significantly higher biological absorption and retention rates than other sources presently

used as dietary calcium supplements.

Calcium is considered to be one of the most important minerals in the human body for maintaining [bone mass](#) and coronary health. Insufficient dietary [calcium intake](#) can induce osteoporosis and poor blood-clotting.

"Since most adults today achieve their daily [dietary intake](#) of calcium with supplements, this new form will prove to be substantially more beneficial," according to Dr. Amir Berman, a researcher and a member of the BGU Ilse Katz Institute for Nanoscale Science and Technology.

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Results of experiments performed on laboratory animals showed that the absorption and retention rates were up to 40 percent higher in the blood and 30 percent higher in bone when the ACC compound is compared to other calcium sources. Such dramatic enhancement in absorption may be useful in reducing the necessary dosage of calcium, lowering side effects and increasing a patient's compliance.

More information: Solubility and Bioavailability of Stabilized Amorphous Calcium Carbonate, Bone and Mineral Res. 26(2) 364-372
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