

Real veggies fight real migraine

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Researchers in India have investigated compounds present in Live Green "Real Veggies" that might have physiological activity to treat the painful inflammatory condition, migraine. They provide details of their findings in the *International Journal of Computational Biology and Drug Design*.

Migraine is a neurological condition characterized by over-excitability of certain active proteins in the brain, which leads to inflammatory pain and other symptoms. It is three times more common in women than men. It is known that calcitonin gene-related peptide (CGRP) is involved in triggering a [migraine](#) and so drug development has focused on searching for small molecules that bind to this peptide and block its action.

Unfortunately, most of those that are active in the laboratory have failed to be developed further because they are generally metabolized before they ever reach the brain. Moreover, these compounds tend to be toxic to the liver.

Now, Geeta Rai of the Department of Molecular and Human Genetics, at Banaras Hindu University, in Varanasi and colleagues Mohit Jain and Nirmala Kumari Neiss of Wellness India Limited, in Mumbai, India, have used the high-throughput screening tools of the pharmaceutical industry – molecular docking, absorption, distribution, metabolism, excretion and toxicity modeling – to evaluate the binding of active molecules present in "Real Veggies" against a computerized crystal structure of the CGRP receptor. They have also compared the properties of these compounds with reference anti-migraine drugs currently on the market.

"Live Green Real Veggies" are a food supplement marketed as liver detoxifying agents but with various associated claims for health benefits. The product contains, among other constituents, glucosinolate (cabbage and broccoli), glutathione (cabbage, broccoli, parsley), sulforaphane (cabbage and broccoli), indole-3-carbinol (from cabbage), carnitine (carrots) and betaine (beetroot). The team points out that indole-3-carbinol and sulforaphane can cross the blood-brain barrier whereas other components cannot and many are not even absorbed by the body when taken by mouth.

The team concludes that they have "strong evidence that active ingredients present in Live Green Real Veggies can act as an antagonist to the CGRP receptor thus having the potential to prevent migraine." Of course, it might also be suggested that a diet rich in green vegetables, rather than a specific supplement, might have a similar positive effect for migraine sufferers.

More information: "A novel formulation of veggies with potent anti-migraine activity." *Int J Comput Biol Drug Des.* 2015;8(1):54-61. [DOI: 10.1504/IJCBDD.2015.068787](https://doi.org/10.1504/IJCBDD.2015.068787)

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