EGCG Suppresses Lung Cancer Cell Growth

A recent study done by the Hormel Institute at the University of Minnesota, in Austin, indicates that green tea may help stop lung cancer growth.* The study, which focused on epigallocatechin gallate (EGCG), a polyphenol compound in the catechin family that is highly concentrated in green tea, set out to examine reports that EGCG suppresses lung cancer.

The study’s researchers found that EGCG interacted with the Ras-GTPase-activating protein SH3 domain-binding protein 1 (G3BP1). They also showed that EGCG suppressed the independent growth of H1299 and CL13 lung cancer cells, which contain a large amount of G3BP1 protein.

Additional results showed that EGCG effectively attenuated G3BP1 downstream signaling, including extracellular signal-regulated kinase and mitogen-activated protein kinase/extracellular signaling-regulated kinase.

The researchers concluded that green tea, which is one of the most popular beverages in the world, may in fact be a potent cancer fighter. The studies strongly indicated that green tea, via its EGCG content, suppresses lung tumorigenesis through its binding with G3BP1.

Editor’s note: Life Extension has advocated the use of green tea as a powerful antioxidant for years. This study is yet another confirmation that supplementing with green tea extract can be highly beneficial to the body.

—Jon Finkel

Reference


Broccoli Compound Targets Breast Cancer Stem Cells

In research conducted at the University of Michigan, a compound known as sulforaphane, found in broccoli and broccoli sprouts, was demonstrated to target cancer stem cells in cell cultures and in mice. Cancer stem cells, which are not destroyed by chemotherapy, are believed to be involved in the ability of breast cancer to recur, grow, and spread.*

Duxin Sun, PhD and colleagues injected varying concentrations of sulforaphane derived from broccoli extract into mice implanted with human breast cancer tumors. Examination of the animals’ tumors uncovered a substantial reduction in cancer stem cells, while normal cells did not appear to be significantly affected. Additionally, cancer cells derived from animals that received sulforaphane that were re-implanted into other mice failed to form tumors.

“Sulforaphane has been studied previously for its effects on cancer, but this study shows that its benefit is in inhibiting the breast cancer stem cells,” Dr. Sun stated.

Editor’s note: The concentrations of sulforaphane tested in the study were higher than those provided by normal consumption of broccoli or its sprouts.

—Dayna Dye

Reference

* Clin Cancer Res. 2010 May 1.