

Name \_\_\_\_\_  
Literacy Lab #18: "Chilies and Cancer"

Date \_\_\_\_\_  
Living Environment: Comet 2011-2012

### **"Does Chili Cause Cancer Cells to Self-Destruct?"**

**Directions:** Take a few minutes to read the article below either online (or on the back of this page.) Write responses to the statements or questions below. Cut/copy/paste is not allowed – use your own words and thoughts, based in research if needed.

Read More: <http://www.livestrong.com/article/556039-does-chili-cause-cancer-cells-to-self-destruct/#ixzz1ox6HufUI>

**Fact-finding:** List three facts that you learned in this article.

1.

2.

3.

**Vocabulary:** List and define three unfamiliar words in the space below.

**Implications:** What are your feelings about this "discovery"? Why is this type of research important/unimportant? Fully explain your answers.

# Does Chili Cause Cancer Cells to Self-Destruct?

Mar 5, 2012 | By Joanne Marie

Cancer is a group of disorders that can develop in any of the body's tissues or organs, destroying healthy tissue and sometimes spreading to other areas. The American Cancer Society estimates that over 1.5 million Americans will likely develop some form of cancer in 2012. Chili peppers contain a compound called capsaicin that has anti-cancer properties and may cause cancer cells to die through a self-destructive process called apoptosis. Discuss capsaicin with your doctor to decide if it might be helpful for your situation.



## Cancer

Cancer begins when something damages the DNA in healthy cells, causing them to become abnormal and grow out of control. Large numbers of these abnormal cells either form a mass called a tumor or remain as large groups of single cells, crowding out healthy cells. Your risk of developing cancer is increased if you inherit a cancer-related gene such as BRCA-1 or BRCA-2, which can cause breast cancer, if you are exposed to carcinogenic chemicals or radiation, or if you become infected with certain cancer-causing viruses.

## Capsaicin in Chili Peppers

Chili peppers belong to the genus *Capsicum*. When dried and ground, the peppers produce a spice called cayenne. The biologically active ingredient in cayenne is capsaicin, a natural chemical with a number of medicinal properties. Capsaicin is a potent antioxidant and, when applied topically, also reduces pain by suppressing production of substance P, a natural chemical that sends pain signals to your brain.

## Research

A number of research studies have examined the effects of capsaicin on cancer cells. In a study published in "Leukemia Research" in 2003, capsaicin caused cultured leukemia cells to begin a process called apoptosis that eventually led to their death. In another study published in "Journal of Agricultural and Food Chemistry" in 2010, investigators found that capsaicin also induced apoptosis in cultured colon cancer cells. They also observed that capsaicin inhibited tumor growth in laboratory animals. These are very promising findings, although studies of capsaicin in human subjects are still needed to confirm its usefulness in preventing or treating cancer.

## Recommendations

You can increase your intake of capsaicin by adding fresh chili peppers or dry, powdered cayenne pepper to your diet. Capsaicin is also available in capsules from most health food stores. Chili peppers and capsaicin supplements are generally considered safe, although they may cause stomach irritation in some people. Always wash your hands after using the peppers or powder since both can cause serious eye irritation. Capsaicin may also interact with some medications, including certain sedatives, blood thinners, blood pressure drugs and pain killers. Discuss capsaicin with your doctor before adding it to your regimen.

Read more: <http://www.livestrong.com/article/556039-does-chili-cause-cancer-cells-to-self-destruct/#ixzz1ox6HufUI>