Modified Citrus Pectin

**Other common name(s):** citrus pectin, Pecta-Sol®, MCP

**Scientific/medical name(s):** none

**Description**

Modified citrus pectin (MCP) is a form of pectin that has been altered so that it can be more easily absorbed by the digestive tract. Pectin is a carbohydrate made up of hundreds or thousands of sugar molecules chemically linked together. It is found in most plants and is particularly plentiful in the peels of apples and citrus fruits. Citrus pectin refers to pectin that has been chemically altered to break up its molecules into smaller pieces. Pectin that has not been modified cannot be absorbed by the digestive system (and is considered a type of soluble dietary fiber), whereas modified pectin can be absorbed into the bloodstream.

**Overview**

Animal studies and a couple of uncontrolled human studies have found that MCP may inhibit the spread of prostate cancer and melanoma to other organs. However, most animal studies also showed that MCP had no effect on the main tumor and that it may only be useful for preventing or slowing the growth of metastatic tumors. These animal studies are in the very early stages of development.

**How is it promoted for use?**

Proponents claim that MCP slows or stops the growth of metastatic prostate cancer (prostate cancer that has spread) and melanoma, a dangerous form of skin cancer, by making it difficult for cancer cells that break off from the main tumor to join together and form new tumors. Proponents also claim that a compound found in MCP strengthens the cancer cell-killing ability of T-cells (cells that also protect against germs).

**What does it involve?**

Modified citrus pectin is available in capsules or a powder. The dose suggested by manufacturers for the powder is 5 grams (nearly a fifth of an ounce) taken 3 times a day with meals. For capsules, the suggested dose is 800 milligrams (mg) 3 times a day with meals.

**What is the history behind it?**

Pectin is commonly used as a gelling agent for canning foods and making jellies. It is also used in the production of food and cosmetics and in the manufacture of anti-diarrhea medicines. In the past 10 years, the modified form of pectin has been investigated for anti-cancer properties.

**What is the evidence?**

Several animal studies found that MCP helped reduce the spread of prostate, breast, and skin cancer by making it difficult for cancer cells that spread to the lungs to join together and form new tumors. For example, one of these studies examined the effects of MCP on lung metastases from melanoma. Mice given MCP, it was found that they developed significantly fewer metastatic lung tumors than mice that did not receive the drug. When lung tumors did develop in mice that were given MCP, they tended to be smaller than those which formed in untreated animals.

The results from these studies appear to show that MCP makes it difficult for cancer cells that spread to the lungs to join together and form new tumors. However, most animal studies also showed that MCP had no effect on the main tumor and that animal studies are in the very early stages of development.
Recent studies of human and animal cells have provided information on how MCP might slow the growth of many cells that is present in abnormally high levels in many cancers, and which plays important roles in cancer growth, survival, and spread.

Although animal and cell studies are quite encouraging, very little information is available about whether MCP is effective in humans. In one published report, seven men with prostate cancer were treated with MCP after standard treatment failed. In 7 of these men, prostate specific antigen (PSA, a blood test used to monitor prostate cancer) doubling time improved compared to measurements done before taking MCP. This study has limitations, which limits the strength of its conclusions on MCP's effectiveness. It also did not measure survival or other important outcomes.

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Are there any possible problems or complications?

Citrus pectin is on the FDA's list of ingredients that are "generally recognized as safe" when used as intended. Side effects rarely occur. However, some people may experience stomach discomfort after taking MCP. There have been a few case reports of people with exposure to powdered pectin developing asthma when pectin was used to produce jam.

Modified citrus pectin may cause serious allergic reactions in those who are allergic to citrus fruits or any other component of MCP.

Additional Resources

More Information From Your American Cancer Society

The following information on complementary and alternative therapies may also be helpful to you.

- Guidelines for Using Complementary and Alternative Methods
- How to Know What Is Safe: Choosing and Using Dietary Supplements
- American Cancer Society Operational Statement on Complementary and Alternative Methods

References


University of Texas M.D. Anderson Cancer Center, Complementary/Integrative Medicine Education Resources (CIMER). Modified citrus pectin. Available at: http://www.mdanderson.org/departments/CIMER/display.cfm?id=89391394-4477-426D-B2BE4320C6952470&method=displayFull&pn=6EB86A59-EBD9-11D4-810100508B60


Note: This information may not cover all possible claims, uses, actions, precautions, side effects, etc.
as a substitute for consultation with your doctor, who is familiar with your medical situation.

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