

Ingredients in *Protective Breast Formula*: Their Actions Against Breast Cancer

DIM (found in cruciferous vegetables):

- 1) Shuts off a key enzyme needed for breast cancer to grow
- 2) Makes the estrogen receptor in the breast less “sensitive” to estrogen. Said another way, breast cells will not divide as rapidly in response to estrogen.
- 3) Causes the body to make more of a “good” type of estrogen that does not increase the risk of breast cancer, and less of the “bad” kind of estrogen, that does.
- 4) Activates a “tumor suppression” gene.

Studies find that women who eat the most cruciferous vegetables have a 40% lower incidence of breast cancer.

CALCIUM D-GLUCARATE (also found in cruciferous vegetables):

- 1) Stops liver enzyme (beta glucuronidase) from splitting of toxins and “bad” estrogen after they are bound to glucuronic acid in the liver. So it helps the body to eliminate more toxins and estrogen.

MAITAKE MUSHROOMS:

- 1) Arrests the growth of tumors
- 2) Causes tumors to shrink
- 3) Prevents metastasis or spread of the tumor to other areas of the body
- 4) Stimulates the immune system- specifically it increases the number of, and function of macrophages and T lymphocytes (T-lymphocytes are the main defense cells, and macrophages are scavenger cells that gobble up invaders, such as bacteria and tumor cells).

A study found that tumors shrank and symptoms improved in 68.8% of breast cancer patients with stage 2, 3 and 4, diseases.

GREEN TEA:

- 1) Contains powerful anti-oxidants and anti-inflammatories, the most active of which, are the polyphenols gallic acid (GC), epigallocatechin (EGC) and epigallocatechin gallate (EGCG). EGCG being the most powerful of the three.

- 2) Women who drink green tea have a significantly lower risk of breast cancer
- 3) Women who drink green tea and develop breast cancer, on the average, have a better prognosis and survival. In other words, they live longer.
- 4) ECGC inhibits the growth of breast cancer and decreases the risk of metastasis
- 5) Rats with breast cancer, that were fed green tea, had a 93% survival rate and smaller tumors, compared to 33% for the animals that were not given green tea.
- 6) Increases the number of protein binders in the blood. Estrogen attaches to protein binders, and then is not able to attach to estrogen receptors in the breast. The more protein binders that are present the less estrogen that can attach to the estrogen receptors in the breast, and therefore, the lower the risk of breast cancer.
- 7) Decreases the production of estradiol- the strongest of the 3 natural forms of estrogen and the one most associated with an increased risk of breast cancer.
- 8) Increase the number of estrogen and progesterone-receptor, positive tumors in post-menopausal women. This type of breast cancer is less aggressive, more treatable and generally has a higher probability of survival.
- 9) Blocks new blood vessels from growing into any existing tumor- tumors need new blood vessels in order to increase their growth. Blood vessels carry nutrient-laden blood, or in other words, food and oxygen, to the tumor- which is essential for its growth. Without new blood vessels, tumors can't grow larger.
- 10) Enhances the effectiveness of chemotherapy, while protecting organs and normal cells, from its damaging effects. Research shows that Adriamycin and doxorubicin will concentrate 2.5-2.9 times more, in tumor cells, in the presence of green tea, while the concentration in normal cells decreases. This is due to green tea's influence on a 'pump' mechanism in cell membranes.

TURMERIC:

- 1) Considered the #1 anti-cancer spice
- 2) Improves the breakdown of toxins in the liver
- 3) Decreases the activity of phase 1 enzymes in the liver, and enhances phase 2 enzymes. Phase 1 enzymes change pro-carcinogenic substances into carcinogens. Phase 2 enzymes recognize the carcinogens and break them down. By lowering phase 1 enzymes, fewer carcinogens are formed, and by increasing phase 2 enzymes, more carcinogens are eliminated.
- 4) Powerful COX-2 anti-inflammatory. Substances that block the COX-2 enzyme have the following anti-cancer effects:
 - a. Stops tumor cell growth
 - b. Kills existing tumor cells
 - c. Prevents the gathering of new blood vessels
 - d. Decreases the ability of tumors to invade surrounding tissue
 - e. 'turns on' a tumor suppression gene
 - f. Lowers the risk of metastasis

- g. Slows the production of mutagens (substances that form in the body, that can cause mutations of DNA, that can lead to cancer)
- 5) Antioxidant properties that are 300 times greater than that of vitamin E
- 6) Stimulates the immune system
- 7) Promotes weight loss (20-30% of all post-menopausal cancers are thought to be due to obesity- fat is the main source of estrogen production after menopause)
- 8) Makes environmental toxins with estrogenic properties, less estrogenic. For example, a group of pesticides called organochlorines (i.e. DDT) behave like estrogen in the body- only much more powerfully and significantly increase the risk of breast cancer. Women with the highest levels of DDT in their bodies have a 400% higher risk of breast cancer. Turmeric makes these chemicals less estrogenic.
- 9) Enhances the effect of chemotherapy, while protecting against its damaging effects
- 10) Synergistic effects when combined with green tea- it makes green tea's anti-cancer effect 8 times stronger, and green tea makes turmeric's anti-cancer effects 3 times stronger
- 11) Down-regulates estrogen receptors- in other words, it makes the estrogen receptor less sensitive to estrogen, so breast cells will not divide as quickly in response to it
- 12) Synergistic effects when combined with genistein (a phytoestrogen found in soy)- it helps the genistein to block more estrogen from attaching to the estrogen-receptors in the breast

GRAPE SEED EXTRACT:

- 1) Powerful antioxidant called proanthocyanides found to kill breast cancer cells, and increase the growth and viability of normal cells
- 2) Decreases the level of estrogen in the body

VITAMIN D:

- 1) Makes breast cells more resistant to toxins
- 2) Decreases the ability of breast cancer cells to divide and grow
- 3) Prevents angiogenesis- the growth of new blood vessels into a tumor
- 4) Stimulates the immune system- increase the number and function of, natural killer cells