

LIGNANS ARE SUBSTANCES WITH POWERFUL health-promoting and health-protecting properties found in certain plants, most notably flaxseeds, which have 100 times more lignans than any other known edible plant, and also in the all-natural flax-lignan supplement called Brevail®. Research shows that lignans improve symptoms of perimenopause and PMS by balancing feminine hormones and lower the risk of several age-related diseases, such as heart disease, osteoporosis, dementia, diabetes and obesity.

## Lignans and Breast Density

### EXTRAORDINARY BREAST CANCER DEFENSE

Lignans have many anticancer properties, too, especially against breast cancer. There are over a

dozen ways that lignans combat this deadly disease. For example, lignans lower the production of estrogen, block the estrogen receptor similar to the anticancer drug tamoxifen, cause more of the “good” protective type of estrogen to be produced and less of the “bad” cancer-enhancing variety, make the breast tissue more resistant to environmental toxins, decrease insulin-like growth factor (IGF-1) and epidermal growth factor (two natural powerful promoters of breast cancer cells), stop breast tumor cell growth, help to prevent metastasis or spread of the tumor to other areas of the body, discourage new blood vessel growth into tumors, block the aromatase enzyme similar to the anticancer drug Arimidex, decrease the number of menstrual periods a woman has over her lifetime by increasing the number of days in between them, and quell the cancer-promoting effects of oxygen free radicals and inflammation.

# ANOTHER POWERFUL WAY THAT Lignans Support Breast Health

### THE CORRELATION BETWEEN BREAST CANCER AND BREAST DENSITY

Recent research reveals that lignans have yet another way that they protect against breast cancer—decreasing the density of the breast. Breast density as seen on mammography is a recognized significant independent risk factor for breast cancer. The density of the breast is directly related to the composition of the breast. The breast is primarily composed of fat and breast tissue. Breast tissue refers to what in scientific terms includes breast parenchyma and stroma—the parenchyma is made up of milk glands and ducts and the stroma is the connective tissue that holds them together. Increased breast density is usually due to an increase of breast parenchyma and stroma—a condition associated with an increased risk of breast cancer. According to a 1998 Canadian study published in the *European Journal of Cancer Prevention*, the correlation between breast density on mammogram and breast cancer has been well established by many different studies and, on average, women with the highest breast density have a four to six times greater risk of breast cancer.

There are many factors that influence breast density. A study published in the *American Journal of Epidemiology* just last month (November 2005) reporting on results of the Postmenopausal Estrogen/Progestin Interventions (PEPI) Trial for U.S. women, conducted from 1998 through 2005, found

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that higher levels of certain estrogens, such as estrone, estradiol and "free" estradiol, in the blood are associated with increased breast density. In another study published in the journal *Breast* in July 2005, progesterone was found to increase mammographic density, too—in fact, its influence appeared stronger than that of estrogen. In 2000, Mayo Clinic researchers reported in the journal *Cancer Causes and Control* that other causes of increased breast density include nulliparity or no history of pregnancy, late age of first giving birth, younger age, lower body mass index, current use of hormone replacement therapy (HRT), consumption of alcohol, and low waist-to-hip-ratio (the comparison measurement of the circumference of the waist to the hips). A Northwestern University study of Hispanic women in Chicago also found that current use of HRT caused increased breast density, as did premenopausal status and a history of smoking. High serum level of IGF-1 was identified as yet another factor related to increased breast density in a study published in *Cancer, Epidemiology and Biomarkers Preview* in May 2005.

Just as there are many factors that increase breast density, numerous studies have identified factors associated with decreased breast density, such as increasing age, postmenopausal status and number of births. Dietary factors have an influence as well. Lowering fat intake and increasing the consumption of vegetables, olive oil, cheese, beta carotene, vitamin C, calcium and potassium all lower breast density.

## LIGNANS AND REDUCED BREAST DENSITY

A German study published in the *European Journal of Medical Research* in September 2005 found that lignans—specifically a lignan called secoisolariciresinol (found in flaxseeds and Brevail)—as well as fiber and soy have the same beneficial influence. In this study, called the European Prospective Investigation into Cancer and Nutrition cohort in Heidelberg (EPIC-Heidelberg), researchers G. Nagel, U. Mack, D. von Fournier, and J. Linseisen explored the use of mammograms and the measurement of mammographic density to investigate the association between dietary phytoestrogen intake and breast density patterns. Dietary habits were assessed by means of a validated food frequency questionnaire. They found a direct relationship between lignan intake and breast density—the more lignans that women

consumed, the lower the density of their breasts. This is the first report, to their knowledge, of the association of lignans with breast density. The researchers pointed out that further studies are needed to confirm the strong relationship they found between lignans and breast density.

## THE IMPORTANCE OF LIGNANS—EVERY DAY

With all of the well-documented ways that lignans reduce the risk of and help fight serious diseases like breast cancer, it would be wise to consume plenty of them. If you don't consume enough lignans, the level of them in your body begins to fall within 24 hours. That's why it is important to consume lignans *every day* for the best protection. Taking the flax-lignan supplement Brevail is a simple way to ensure that you get optimal amounts of lignans. Brevail was standardized so that just one capsule a day contains enough lignans to achieve levels in your body that are associated with the lowest incidence of disease. There is nothing more important than good health. Add lignans or Brevail to the simple, yet powerful, daily habits that you can do to protect your health. Like brushing your teeth, eating a diet filled with fresh, organic fruits, vegetables and whole grains, getting plenty of rest, exercising and practicing an effective stress-reducing technique, consuming plenty of lignans should be a part of your daily routine. ■

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## RESOURCES

Women concerned about doing everything they can to maintain their breast health—as well as women experiencing symptoms associated with PMS and menopause—should consider Brevail as a safe, natural and effective approach to address these concerns.

### How much does it cost?

Brevail retails at \$19.99 for a one-month supply.

### Where can I find it?

Brevail is available in select health food stores and other natural health centers.

**Free Sample** While supplies last, a free sample of Brevail is available complete with an informative CD by calling (888) 503-8300, e-mailing [sample@brevail.com](mailto:sample@brevail.com) or writing to Lignan Research, 9921 Carmel Mountain Road #339, San Diego, CA 92129.

### Contact Information

For more information call Brevail at (888) 503-8300 or log onto [www.brevail.com](http://www.brevail.com).

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