

In Focus

NutriCology® Newsletter

January 2002

New Anti-Stress Formula ZenMind: Calming Supplement For Hard Times

Recently, NutriCology® introduced a new calming supplement that has helped many people cope with recent world events, appropriately named “ZenMind”. The main ingredient in ZenMind is a relatively newly discovered amino acid L-Theanine, which is derived from green tea. See feature article on page 2.

“L-Theanine is a unique preparation for reducing stress and anxiety. It has a profound effect on increasing overall life energy. I have found it to be extremely valuable in coping with the effects of the recent terrorist attacks.”

John Diamond, M.D.

Turn to page 4 for highlights from the new book “All About DIM” by Michael Zeligs, M.D., and A. Scott Connelly, M.D. This informative new book tells you everything you need to know about diindolylmethane

and its ability to influence estrogen metabolism in a very positive way. The many health benefits of healthy estrogen metabolites are covered. Also learn why diindolylmethane is preferred over I3C. See highlight article from All About DIM on page 4.

Find out more about the origins and benefits of buffered vitamin C powder in an editorial piece by Stephen Levine, Ph.D. Also mentioned is the preliminary success we’ve had with hypersensitive patients and our new up-and-coming potato source buffered vitamin C powder. See page 6 for editorial.

In response to requests for larger size bottles of our most popular products, we are pleased to announce that for select products, we have added more capsules for the same price. Turn to page 7 for a complete list of products, as well as info about our Special Sale now through the end of February.

AngioBlock Providing Powerful Angiogenesis Inhibition Over 100 Times Stronger Than Shark Cartilage

So far, we’ve had lots of positive feedback regarding our new angiogenesis inhibiting product, AngioBlock and it’s companion product for immune support, ImmuBlast. AngioBlock is a natural extract of bindweed or *Convolvulus arvensis*. Studies have shown AngioBlock to induce angiogenesis inhibition over 100 times stronger than shark cartilage. ImmuBlast enhances the effect of AngioBlock not only by supporting the immune system but also by increasing Interleukin 12 production, which has angio-

genesis inhibiting properties of it’s own. Angiogenesis has been a “hot topic” in the media on and off for years. If you’re really interested in learning more about the history of angiogenesis inhibition try reading the new book by Dr. Robert Cook entitled *Dr. Folkman’s War*, Random House, New York, 2001. This book is a “must read” for people wanting to stay informed about the latest developments in angiogenesis inhibition. For more information about AngioBlock and ImmuBlast contact NutriCology®.

These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.

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L-Theanine increases brain alpha waves just like meditation.

Zen in a Bottle

The Anti-Stress, Calming & Balancing Effects of L-Theanine

"L-Theanine is a unique preparation for reducing stress and anxiety. It has a profound effect on increasing overall life energy. I have found it to be extremely valuable in coping with the effects of the recent terrorist attacks."

John Diamond, M.D.

Just when we thought all the benefits of green tea had been revealed, along comes L-theanine. In Japan, 2 billion dollars worth of this unusual amino acid is sold every year for stress relief. While there are numerous studies demonstrating the health benefits of tea, most people drink it for its flavor and relaxing effects. But that relaxing effect isn't just from the tea-drinking experience – it's also biochemical. Found almost exclusively in tea leaves – especially green tea (*Camellia sinensis*), L-theanine has been found to have a deeply relaxing effect via several neurological mechanisms without sedation.

L-theanine constitutes between one and two percent of the dry weight of tea leaves. It is the predominant amino acid component in tea, and exists only in the free (non-protein) form. Japanese researchers discovered the presence of L-theanine in tea leaves in 1949. Its chemical structure was then determined to be gamma-ethylamino-L-glutamic acid. The amount of L-theanine found in tea depends on the environment in which the tea is grown – such as climate, rainfall and sunlight. In 1990, Japanese food scientists developed an enzymatic process for making a compound that is chemically identical to the L-theanine found in tea. Favorable toxicology studies followed, and L-theanine became available in supplement form.

Dosage

Oriental cultures have used tea for its therapeutic benefits for centuries. It is estimated that a heavy tea drinker (6-8 cups per day) will consume approximately 200-400 mg of L-theanine per day. Based on clinical studies, it has been established that L-theanine is effective in single doses ranging from 50 to 200 mg.

Mechanism

Research with human volunteers has demonstrated that L-theanine creates its relaxing effect in approximately 30 to 40 minutes after ingestion. The mechanism behind this effect is two-fold:

- 1) L-theanine directly stimulates production of alpha brain waves, which creates a deep state of relaxation while maintaining mental alertness like the state accomplished by meditation.
- 2) L-theanine appears to play a role in the formation of the inhibitory neurotransmitter gamma-aminobutyric acid, better known as GABA. GABA blocks the release of the neurotransmitters dopamine and serotonin, and is well known for its relaxing effects.

In a study done in 1999 at the University of Shizuoka, Japan, several other unique properties of L-theanine were found. The research demonstrated that in addition to facilitating relaxation, L-theanine may benefit blood pressure regulation, learning performance, mental clarity, concentration, and immunity.

L-Theanine Blocks the Effects of Caffeine

Although the calming effect of L-theanine may seem contradictory to the stimulatory effects of tea's caffeine content, research suggests that **L-theanine exerts an antagonistic effect on caffeine's stimulatory action**.


How L-Theanine Differs From Anti-Stress Herbs

The main difference between L-theanine and anti-stress herbs such as valerian root, skullcap, passion flower, etc., is that it does not cause drowsiness. This could be very helpful for people who want a calming effect without feeling sedated. In addition, unlike most amino acids, L-theanine can be taken with or without food and may be taken at any time. The material is also very pure and is not subject to fluctuations in efficacy as are herbs. There appears to be no side effects associated with its use.

L-Theanine & Serotonin

Animal studies have also shown that administration of L-theanine reduces brain serotonin concentration by either reducing serotonin synthesis or degradation in the brain. It has been hypothesized that serotonin facilitates general and conditioned anxiety at the level of medial temporal lobe structures.

L-Theanine Increases Alpha Waves

During a volunteer study, test subjects ranging from ages 18 to 22 were divided into two groups: high anxiety & low anxiety using the Manifest Anxiety Scale. Over a two-month period, each volunteer was given a test solution of water containing either 50 mg or 200 mg of L-theanine. Test subjects' brain waves were then measured for 60 minutes after administration. Alpha wave activity was observed in test subjects within approximately 40 minutes of administration. In a separate study, it was observed that the intensity of alpha waves was determined to be dose dependent and detectable within thirty minutes of administration. The perceived relaxation effect was consistent with the detection of alpha waves.  [References available on request.](#)

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Experience meditative calm & stress control in 30 to 40 minutes.

ZenMind

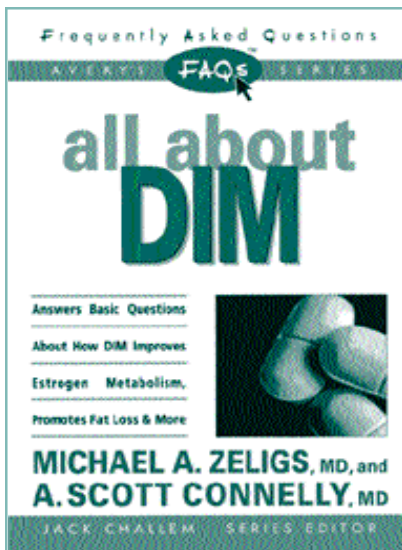
Promotes a feeling of relaxation without sedation.

A unique formulation of GABA (gamma-aminobutyric acid) & L-theanine, an amino acid derivative found naturally in green tea.

**Over 2 billion dollars worth of L-Theanine is sold every year in Japan making L-Theanine one of the most important new anti-anxiety compounds available.*

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NutriCology®



All About DIM: Diindolylmethane for Optimal Estrogen Metabolism

All About DIM: A New Book by Michael A. Zeligs, M.D., and A. Scott Connelly, M.D., Avery, New York, 2000.

This book will answer all your basic questions about how to use diindolylmethane (or as it is referred to in the book "DIM") to improve hormonal status and to achieve optimal estrogen metabolism. All information in the following article has been summarized from this new and informative book now available from Nutricology®.

What Is Diindolylmethane?

The health benefits of a diet high in cruciferous vegetables is well known. These vegetables include broccoli, cauliflower, cabbage, and brussels sprouts. Diindolylmethane or "DIM" is a plant compound, or "indole" derived from cruciferous vegetables that has demonstrated powerful protective properties in scientific studies. Recent studies show that the health benefits that result from regular use of supplemental diindolylmethane are due to its ability to shift the balance of estrogen and testosterone in a very positive way.

A Diet High In Cruciferous Vegetables Is Not Enough

You would have to consume about two pounds of raw or

lightly cooked cruciferous vegetables per day in order to get the amount of diindolylmethane that you would get from a high quality diindolylmethane supplement - and that's just for *minimum* benefit. In addition, diindolylmethane is difficult to absorb. High quality diindolylmethane supplements are formulated with enhanced delivery systems for optimal absorption. However, because cruciferous vegetables contain other health promoting indoles in addition to diindolylmethane, consuming cruciferous vegetables in your daily diet while supplementing with diindolylmethane will lead to even greater health benefits.

Hormones: Not Just For Reproductive Function

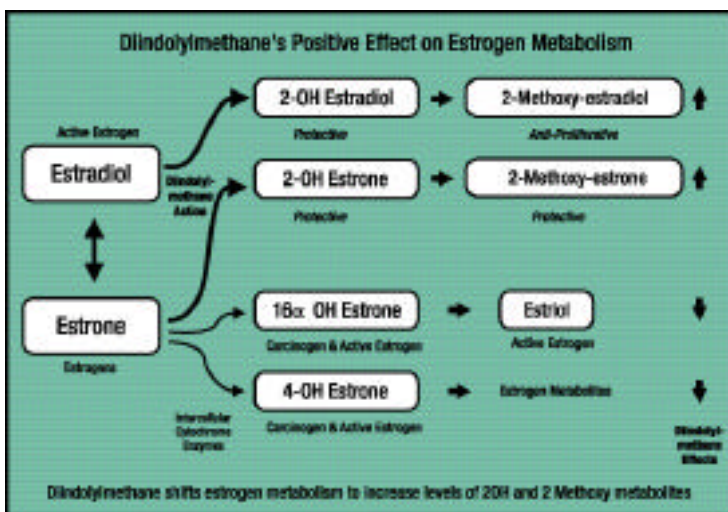
Estrogen, progesterone and testosterone are not only responsible for the normal functioning of the reproductive system, but also contribute to health in other key ways. It is important to note that both estrogen and testosterone are present in, and benefit, both women and men. Estrogen helps maintain healthy bones and skin and is protective to the heart and brain through its antioxidant activity. Testosterone works to support healthy bones and muscles, increases energy, improves mood and increases libido.

Age Related Hormone Decline

As we age, our bodies produce less hormones which can result in a wide variety of symptoms and conditions including bone loss, weight gain, loss of muscle tone and lowered libido. Supplementing with diindolylmethane can lessen, reverse or prevent these symptoms.

Estrogen Metabolism & Women's Health

For women, estrogen is the dominant hormone. From age 35 until the end of menopause, a reduced metabolism of estrogen may occur. This "estrogen dominance" can lead to a variety of symptoms and conditions affect-



ing mood, sleep, mental functioning, weight, and the health of the entire reproductive system, to name a few.

Diindolymethane's Positive Effect On Estrogen Metabolism

Because diindolymethane has a similar molecular structure to estrogen, it stimulates a more efficient metabolism of estrogen. In order for estrogen to be broken down and excreted from the body, it first must be metabolized into specific forms and combined with oxygen. Supplementing with diindolymethane greatly increases the chance for positive estrogen metabolism to occur, allowing estrogen to be broken down into beneficial metabolites, known as 2-hydroxy estrogens, which possess powerful antioxidant activity. Antioxidants enhance cellular protection by absorbing and deactivating free radicals. The 2-hydroxy estrogens work together with other natural antioxidant components of cells, such as L-glutathione and vitamins A, C, E and selenium. In addition, when good estrogen metabolites are increased, the production of "bad" estrogen metabolites (16-hydroxy estrogens) are decreased, resulting in protective health benefits. *See estrogen metabolism diagram on page 4.*

Cellular Health

Good estrogen metabolites also play an important role in cellular health by supporting the process of "cell death" in which damaged cells are naturally eliminated from the body. Unmetabolized estrogen can promote continued growth of abnormal cells.

Inefficient Estrogen Metabolism

Inefficient estrogen metabolism can leave excess unmetabolized active estrogen (estradiol) in the body, which may cause health problems for both women and men. By promoting efficient estrogen metabolism with diindolymethane supplementation, estradiol can be safely converted into its beneficial metabolites. This conversion also leads to increased testosterone activity which

| Diindolymethane Versus I3C | | |
|---|----------------------------|--|
| Aspect Compared | Absorbable-Diindolymethane | I3C |
| Activity | fully active | precursor |
| Absorption | predictable | unpredictable |
| Stability | high | low |
| Toxicity | none-reported | dose related, includes dizziness and gastritis |
| Tumor Promotion | none-reported | positive in rats, promoting colon cancer: relates to excess enzyme induction |
| Anti-oxidant Action | purely antioxidant | some reaction products like indolocarbazole (ICZ) cause oxidative damage |
| Relative Dose Needed | 3 times dietary intake | 30 times dietary intake |
| Estrogen Regulation | more complete | dose limited, due to toxicity above 400 mg/day |
| PMS Benefits | demonstrated | untested |
| Breast Pain Resolution | demonstrated | untested |
| Cervical Health | demonstrated | demonstrated |
| Weight Loss Promotion | demonstrated | untested |
| Drug, Nutrient, Hormone Interaction Potential | limited | greater |
| Enzyme Induction | limited and specific | greater and non-specific |

supports energy, mood and libido in both women and men.

Suggested Dosage

According to the authors, if you are taking a high quality diindolymethane supplement that is formulated with an enhanced delivery system, 100 mg per day is enough to produce a beneficial shift in estrogen metabolism. However, ideally, 100 to 200 mg for women, and 200 to 400 mg for men per day is suggested for optimal health benefits.

Enhanced Results From Exercise

As we age, a less effective hormonal response to exercise begins to occur. By supporting more efficient fat metabolism and helping the body release testosterone, the good estrogen metabolites increase the development of stronger and more metabolically active muscles. This is known as "ana-

bolic metabolism", and applies to both women and men. Anabolic metabolism results in muscles that have a greater capacity to burn fat and maintain a youthful, lean body composition. Poor estrogen metabolism however, has the opposite effect.

Diindolymethane Versus I3C

A similar dietary supplement known as I3C (Indole-3-Carbinol) is a precursor to diindolymethane. In addition to lacking shelf life, I3C has no biological activity until converted into diindolymethane by stomach acid. In contrast to I3C, diindolymethane is highly stable, requires no conversion in the stomach, and is the most active cruciferous indole in promoting beneficial estrogen metabolism. *See comparison chart above for more details.*

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Potato Source Buffered Vitamin C Powder

Editorial: The Origins & Benefits of Buffered Vitamin C Powder

by Stephen A. Levine, Ph.D.

I first developed buffered vitamin C powder in 1979 to clear my own allergic reactions. I now want to explain the origins of this formulation and the original concept of the acid anoxia endocrine theory by Theon Randolph.

The discovery of acidosis as accompanying allergic – hypersensitivity can be attributed to a Dr. Harry G. Clark, a patient of the world-famous Theon Randolph in 1950. Dr. Clark had developed a number of symptoms which cleared with rotation diet and flared when challenged with his favorite food after a four-day rotation diet. Clark became fascinated with this phenomenon and speculated about possible mechanisms. He concluded that, in view of the speed of the reactions, changes in electrolytes must be involved. Based upon the observation that the pathology of allergy-sensitivity is characterized by edema, and his knowledge that single cell forms of life swell when acidified, he concluded that intracellular edema developed in acute allergic reactions more rapidly than could be neutralized by available buffering systems. He began giving himself bicarbonate salts of sodium and potassium in the proportions that exist in the body ($2/3 \text{ NaHCO}_3$ and $1/3 \text{ KHCO}_3$) to treat his reactions. He found that alternate ratios were not as effective. Randolph and Clark then constructed the acid-anoxia-endocrine theory of allergy, which was published in 1950 (*J. of Lab. Clinical Med.* 36:811-812, 1950.)

Due to the edema and swelling that accompany allergic reactions, intravascular slugging of erythrocytes may further reduce the transport of oxygen to the acidic, edematous area of inflammation.

The high effectiveness of alkali salts of sodium and potassium bicarbonates in alleviating allergic reactions is well appreciated, and has become a major tool for offsetting acute allergic reactions since 1950. However, the buffers must be diluted in a considerable amount of water.

Buffered vitamin C powder is a great improvement over the trisalts. It is free of sodium, which is very important for some patients, especially when hypertension is a concern. The taste is neutral and often pleasant to patients who need it. This is in stark contrast to the salty taste of trisalts, which can be a real challenge to consume. Many patients are just not able to take trisalts because of the extremely salty taste. The trisalts, in large amounts (10 to 12 grams), commonly produces a saline laxative effect, which can empty the gastrointestinal tract of the undesirable food allergen, which results in faster elimination of the allergenic food and the reaction to it. Buffered vitamin C powder also produces this beneficial laxative effect as a result of the vitamin C and magnesium content. I believe that this is a more desirable way to purge the gastrointestinal tract physiologically.

The Vitamin C content is also very valuable by raising tissue levels of the protective antioxidant ascorbate, offsetting free radical damage both in the GI tract and systemically. It will protect the gut mucosal layer (as do other antioxidants), which is known to become hyper-permeable as a result of food allergy/hypersensitivity reactions. In fact, such food reactions are some of the major reasons for gut hyper-permeability problems in the first place. Excess vitamin C in the bowel draws sodium, which swells and leads to the purge effect. I believe that it is so much healthier to have the systemic antioxidant protection of ascorbate and for the vitamin C to cause the purge than to use a sodium purge.

Additionally, buffered vitamin C contains large quantities of calcium and magnesium, which have anti-allergy effects of their own. Hence the use of buffered vitamin C powder has become extremely popular in allergy clinics. NutriCology® Buffered Vitamin C Powder was commonly used in the Randolph clinic in Chicago, as well as in other leading allergy clinics and hospitals, including Dr. William Rae's clinic in Dallas, Texas. Buffered vitamin C powder is one of the most important supplements in many practices, for allergic patients, addicted patients, and more. Numerous articles are available about the many uses of buffered vitamin C powder. For more information contact NutriCology®.

New Potato Source Buffered Vitamin C Powder Passes the Test with Hypersensitive Patients

In our continuing effort to find alternative supplement sources for the most hypersensitive patients, NutriCology® has successfully formulated a new potato-source buffered vitamin C powder. So far, a small number of extremely

hypersensitive patients have tested the new potato-source C with no reactions and the same allergy-clearing benefits as our beet-source buffered C. Keep an eye out for this new formula, soon to become available.

More Caps, Same Price.

In response to requests for larger size bottles for some of our most popular products, we've increased the capsule count, without increasing the price!

| Product | Old Count | New Count | SAME PRICE | Item# |
|-----------------------------|-----------|-----------|------------|--------|
| Buffered C Capsules | 100 | 120 | \$12.15 | #50010 |
| Citrus Seed Extract, 125 mg | 120 | 150 | \$20.50 | #50040 |
| Aller-Aid Formula II | 75 | 100 | \$13.00 | #50110 |
| Glutathione with Vitamin C | 30 | 60 | \$16.10 | #50140 |
| Multi-Min | 90 | 120 | \$16.80 | #50210 |
| Vitamin E 400 IU (soy free) | 100 | 120 | \$14.00 | #50410 |
| Natural Source E | 100 | 120 | \$28.50 | #50420 |
| Phyllanthus Complex | 90 | 120 | \$31.60 | #50750 |
| TriBiotics | 50 | 90 | \$30.80 | #51020 |
| EPO-Evening Primrose Oil | 90 | 120 | \$18.00 | #51260 |
| Organic Germanium | 36 | 50 | \$39.60 | #51290 |
| Ginkgo Complex | 40 | 60 | \$26.50 | #51360 |
| N-Acetyl-Cysteine (NAC) | 90 | 120 | \$21.55 | #51370 |
| NutriOxy | 40 | 60 | \$20.95 | #51470 |
| Circulex | 60 | 90 | \$29.00 | #51490 |
| Citrus Seed Extract, 250 mg | 100 | 120 | \$30.80 | #51530 |
| Chromium Complex | 60 | 90 | \$16.40 | #51900 |
| Laktoferrin/Colostrum | 60 | 90 | \$26.00 | #51950 |
| Connection | 150 | 180 | \$36.10 | #52050 |
| Laktoferrin | 100 | 120 | \$76.00 | #52080 |
| Prolive with Antioxidants | 60 | 90 | \$29.25 | #52430 |
| Glutathione Complex | 60 | 90 | \$59.95 | #52640 |
| 5HTP | 100 | 150 | \$32.80 | #52810 |
| Laktoferrin | 60 | 90 | \$45.60 | #52840 |
| MSM | 100 | 150 | \$14.50 | #52850 |

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IndoleGard

Also Available:

**PMS Nutritional
Support** *(With Vitex)*

See Special Sale on
Page 7.



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