

Cucurbita Pumpkin Rejuvenates Beta Cells, Restores Insulin Production

An extract derived from pumpkin (*Cucurbita ficifolia*) may improve blood glucose levels in diabetics, and exert antioxidant effects, according to a new study. If the research by scientists from the East China Normal University can be reproduced in humans, then consuming cucurbita pumpkin extract may promote regeneration of damaged pancreatic cells, boost levels of insulin-producing beta cells and raise insulin levels in the blood.

“The present study provides substantial evidence to demonstrate the hypoglycemic (blood sugar lowering) action of *Cucurbita* extract, as well as its role as an antioxidant to reveal a mechanism for its cytoprotective (cell protecting) action,” wrote authors Tao Xia and Qin Wang in the *Journal of the Science of Food and Agriculture*.

Rejuvenating Beta Cells

Tao Xia and Qin Wang divided diabetic rats and normal rats into two groups, one fed a normal diet and the other fed the normal diet supplemented with the pumpkin extract for 30 days.

At the end of the study the researchers discovered that plasma insulin levels in the diabetic rats receiving cucurbita extract were restored to 95 percent of insulin levels in normal healthy animals. Additionally, the number of active insulin-positive (beta) cells in the treated animals was restored to 92 percent of those in the normal healthy controls.

“Pumpkin extract is potentially a very good product for pre-diabetic persons, as well as those who have already developed diabetes,” according to lead author Xia.

These remarkable benefits are believed due to actions of *D-chiroinositol*, a molecule isolated from cucurbita that mediates insulin activity. Additionally, a new class of compounds identified in cucurbita have been shown to confer antioxidant protection. Working together these components boost insulin levels to lower blood sugar levels and reduce production of oxidative oxygen species that damage beta-cell membranes; and prevent further damage to beta cells, allowing the cells to regenerate.

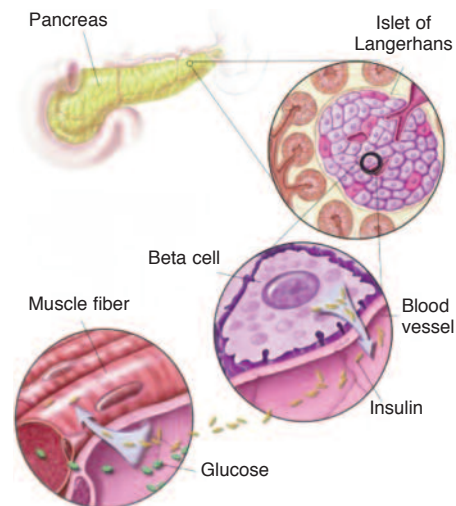


Fig. 1. Insulin production in the human pancreas.

Type 1 diabetes occurs when people lose the ability to produce any insulin after the cells in the pancreas have been damaged, thought to be an autoimmune response.

The rats used in this study modeled Type 1 diabetes, but the researchers believe the pumpkin extract may also play a role in

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Calcium Dysregulation and Osteoporosis

Part 1

Jim English

Osteoporosis is a degenerative bone disease affecting an estimated 10 million people in the United States. An additional 34 million people with osteopenia (low bone mass) are at risk of developing osteoporosis.

Osteoporosis directly contributes to over 1.5 million fractures each year, and 50 percent of all women will experience an osteoporosis-related fracture in their lifetime. Most osteoporosis-related fractures occur in the hips, spine, and wrist. Hip fractures are the most serious, with 25 percent of all patients over 50 dying within one year of a hip fracture. Of those who survive hip fracture, only 15 percent will regain enough mobility to walk across a room unaided within a year.

While osteoporosis primarily affects women, men account for 20 percent of all cases. Additionally, 30 percent of all hip fractures occur in men, and 15 percent of all men over 50 are predicted to experience a major osteoporotic fracture. Most significantly, although the rate of hip

fracture in men is only half of that in women, the death rate one year after a hip fracture is twice as high for men.

Bone Physiology

Bone is living tissue that is continually renewed in a process called *remodeling*. Bone remodeling utilizes two specialized bone cells – *osteoclasts* and *osteoblasts* – that work together to dissolve old, weakened bone and replace it with new, strong tissue. Osteoclasts begin the remodeling process by secreting an acid-like substance that dissolves old bone, leaving behind a series of small pits or cavities. This process, called *resorption*, results in the release of calcium into the blood where it becomes available for use in other metabolic processes. In the next stage of remodeling osteoblasts move in and fill the cavities with a Type 1 collagen mixture called *osteoid*. In the final stage – *ossification* – the osteoid mixture reacts with ions of calcium, mag-

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Calcium Dysregulation and Osteoporosis

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nesium and phosphate to harden into bone.

The bones of the body fall into four general categories: long bones, short bones, flat bones, and irregular bones. Long bones are longer than they are wide and work as levers. The bones of the upper and lower extremities (i.e., humerus, tibia, femur, ulna, metacarpals, etc.) are of this type. Short bones are short, cube-shaped, and found in the wrists and ankles. Flat bones have broad surfaces for protection of organs and attachment of muscles (ex. ribs, cranial bones, bones of shoulder girdle). Irregular bones are all others that do not fall into the previous categories. They have varied shapes, sizes, and surface features, and include the bones of the vertebrae and a few in the skull.

Bones are composed of tissue that may take one of two forms: spongy, or cancellous bone, and compact, or dense bone. Most bones contain both types of tissue. Spongy bone occurs in most bones and combines low density and low strength with very high surface area, making it very porous. Spongy bone is found inside all compact bones and composes most of the tissue of the spine, vertebrae and ends of long bones. The rest of the long bones consist of dense, hard compact tissue, which forms the protective exterior portion of all bones. Bone remodeling is most active in spongy bone—every year about 40 percent of spongy bone is renewed, versus only 10 percent for compact bone.

Bone remodeling depends on the body's ability to maintain a delicate equilibrium between bone destruction and

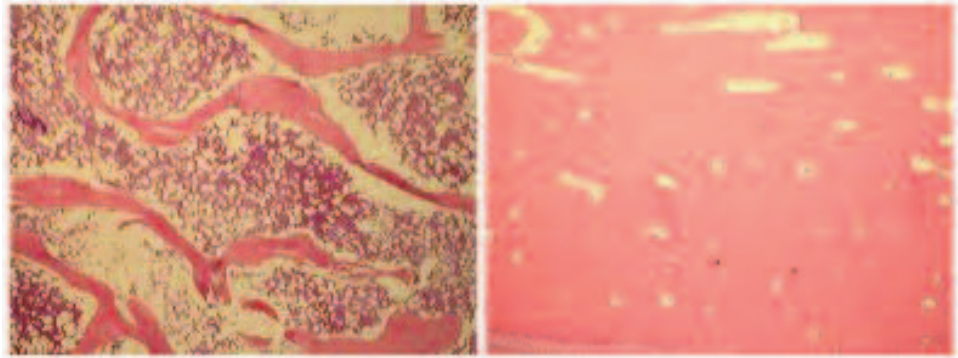


Fig. 1. Spongy (trabecular) bone on left, and compact (cortical) bone on right.

replacement. If the opposing actions of osteoclasts and osteoblasts are disrupted, as is the case with osteoporosis, bone-rebuilding is impaired. In the case of osteoporosis, disruption of bone remodeling is greatest in spongy bone, which explains why most osteoporotic fractures occur in the vertebrae of the spine, the neck of the femoral bone at the hip, and the ends of long bones, such as the wrist.

Primary Osteoporosis

Osteoporosis is classified in two types; primary and secondary. Primary osteoporosis, which accounts for 80 percent of all osteoporotic fractures, is further divided into “Primary Type I” and “Primary Type II.” In Type I osteoporosis, *osteoclast* activity is excessive, resulting in accelerated destruction of bone tissue. In Type II osteoporosis, *osteoblast* activity is reduced, resulting in a net loss of bone tissue.

- **Type I Osteoporosis** occurs between the ages of 50 to 70 and is largely due to estrogen loss at menopause. Excessive destruction of old bone by osteoclasts creates cavities that are too deep for osteoblasts to repair. This type of tissue loss occurs mainly in spongy bone.

- **Type II Osteoporosis** is age-related and usually occurs in people older than 70 years. Reduced bone rebuilding activity by osteoblasts inhibits normal repair of bone cavities. Type II affects both spongy and compact bone, but the greatest loss occurs in compact bone.

Secondary Osteoporosis

Secondary osteoporosis arises from several medical conditions, including hyperthyroidism, hyperparathyroidism, diabetes, adrenocortical overactivity, rheumatoid arthritis, and chronic use of various medications, particularly corticosteroids.

Secondary osteoporosis is also a consequence of chronic alcohol abuse and smoking addiction.

Treating Osteoporosis

Conventional treatment for osteoporosis includes the use of hormones and prescription drugs. Hormone therapy has recently been shown to increase the risk of heart attack, stroke, blood clots and invasive breast cancer. Prescription drugs, particularly bisphosphonates, are also accompanied by side effects that range from mild gastrointestinal upset to musculoskeletal pain, heartburn and esophageal irritation. Additionally, some bisphosphonates have been implicated in osteonecrosis of the jaw, a disorder involving severe bone loss due to impaired blood circulation to bone tissues.

As an alternative to conventional drug therapies, many practitioners recommend intake of extra calcium, supported by supplemental magnesium, boron, and vitamin D. While each of these nutrients play a role in supporting normal bone remodeling in the healthy, they don't adequately address the underlying disorder—the disruption of calcium regulatory mechanisms.

Calcium Dysregulation

In addition to building strong bones, calcium is an essential nutrient required for a variety of critical metabolic, cellular and organ functions. Calcium is essential for chemical signaling within cells, promoting transmission of nerve impulses and inducing muscle contractions. Calcium also initiates blood clotting, participates as a cofactor for enzymes and hormones, and regulates cellular proliferation and maturation.

Due to its importance the body tightly regulates calcium to maintain levels within a narrow, physiologically safe range. To accomplish this numerous specialized molecules and subcellular structures are involved in maintaining optimal calcium

July/August 2007

Vol. 2, Number 3

Nutrition Review

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levels. As a consequence, calcium is in constant motion, entering and exiting cells as it is recycled, redirected, stored and re-released from countless sites in bones, blood, organ tissues and cellular fluids.

When the body loses control of calcium metabolism, numerous problems arise. Calcium dysregulation disrupts endocrine hormones, and interferes with the interplay between glucose and calcium ions during the release of insulin. Ongoing research indicates that calcium dysregulation plays a central role in the development of Alzheimer's disease and contributes to nerve cell damage, kidney nephrosis, bi-polar disorder, calcification of arteries, muscular dystrophies, periodontal disease, non-healing of fractures and tumor cell proliferation.

Failure of Calcium Supplements

Despite popular claims to the contrary, calcium supplements offer very little benefit for preventing fractures in the elderly according to a major study published in the *British Medical Journal* (BMJ). In their report on the RECORD trial, a randomized study involving more than 5,000 persons over the age of 70, the researchers failed to find any significant effects from daily supplements of 1,000 mg calcium and/or 800 i.u. vitamin D3. The main aim of the study was to examine the incidence of bone fractures due to osteoporosis, but they also looked at mortality, frequency of falling and quality of life. The RECORD study spanned from two to five years.

In an accompanying article in the medical journal *Lancet*, Dr. Philip Sambrook (Royal North Shore Hospital, Sydney, Australia) noted, "The RECORD study, a large randomized trial of participants with a recent low-trauma fracture, failed to show any benefit of calcium or vitamin D on fracture. We were a little surprised by our findings because, based on evidence available, the most likely finding was that the combination of calcium and vitamin D would prevent fractures. However, we didn't find this to be the case. A better understanding of the underlying processes at work is needed."

These findings support the research of Kenneth McLeod, chair of the bioengineering department at Binghamton University, England. According to McLeod, calcium supplements are insufficient for triggering the growth of new bone in osteoporosis patients. As a leading researcher in the field of tissue development, healing and adaptation, McLeod's research highlights the lim-

its of a dietary approach to osteoporosis.

McLeod argues that it is time to give up fractured approaches to studying osteoporosis and recognize that the loss of bone mass is a natural, adaptive response to systemic changes in the body.

A better approach for avoiding or reversing the devastating effects of osteoporosis should draw upon our understanding of what is really going on in the body to allow better targeting of the mechanisms involved in bone loss. This is the rationale behind the development of *OsteoPhase*®.

Mother of Pearl (Nacre) and Bone Growth

OsteoPhase is a marine-based nutritional supplement designed to support skeletal bone health and bone remodeling by restoring healthy calcium regulation. *OsteoPhase* was developed on the basis of extensive research into the biology of *nacre*, the lustrous prismatic layer of mollusk shells also known as *Mother of Pearl*. This fascinating composite biogenic material consists of a matrix of proteins, glycoproteins and chitin that combine elasticity with high mechanical strength similar to modern ceramics to reduce brittleness.

"As a consequence, calcium is in constant motion, entering and exiting cells as it is recycled, redirected, stored and re-released from countless sites in bones, blood, organ tissues and cellular fluids."

Early studies with nacre aimed to decipher the mechanisms involved in mineralization and shell formation in oysters. Research soon revealed that nacre formation closely mimics the biological processes involved in human bone formation, including uptake, transport and recruitment of calcium ions.

By 1992 researchers discovered that when implanted in human bone, nacre promotes the formation of osteoblasts (bone forming cells) and stimulates formation of new bone tissue (osteogenesis). Based on this finding, by 1992 nacre from the marine oyster *Pinctada maxima* was successfully being used as a biomaterial in oral surgery.

In 2001 researchers at the *Laboratoire de Physiologie Generale* in Paris began experimenting with a water-soluble matrix (WSM) of nacre obtained from the inner shell layer of *Pinctada maxima*. Their research showed that WSM nacre solution

promoted cell proliferation and alkaline phosphatase (ALP) activity in bone marrow stromal cells, indicating the formation of new bone.

By 2003 a second group of researchers in Paris were conducting new tests of water soluble matrix (WSM) on pre-osteoblast mouse cells. Their study revealed that WSM stimulated osteoblast differentiation and mineralization in a third of the time normally required for cells grown in mineralizing media, demonstrating that the nacre WSM enhanced and sped up the mineralization processes involved in bone growth.

The breakthrough occurred in 2004 when researchers from the *Institute of Marine Biotechnology* in Beijing finally announced that they had succeeded in identifying and characterizing the pivotal calcium metabolism regulator involved in regulating calcium uptake, transport and secretion in oyster nacre.

Building on their discovery, the Marine Biotechnology team developed a proprietary process for extracting and purifying these bioactive agents and blending them with ionic calcium and traditional herbs. This resulted in a formula that safely supports calcium regulation and helps reduce

bone loss, increase bone density, and restore balance to bone remodeling mechanisms.

Initial research has shown that this unique formula, *OsteoPhase*, supports healthy calcium balance (homeostasis) by aiding the body in restoring normal bone density and normalizing (reducing) calcium levels in the blood and soft tissues. These physiological effects are validated by independent studies of the herbal ingredients contained in the formula.

Summary

OsteoPhase is an advanced nutritional formula consisting of a proprietary blend of herbal extracts and marine peptides that have been studied for their role in supporting healthy bone structure and calcium homeostasis. *OsteoPhase* has been shown to significantly reverse bone loss and enhance bone density, as determined by bone mineral density (BMD) measurements by DEXA (dual-energy x-ray absorptiometry) and Achilles (ultrasound) scans. *

Next Issue: Calcium Dysregulation and Osteoporosis, Part 2: Clinical Benefits of OsteoPhase for Glucocorticoid-Induced Osteoporosis and Avascular Necrosis of the Hip.

Combining Herbal Formulas to Prevent Summer Colds and Flu and Reduce Arterial Inflammation

By John Steinke, L.Ac.

Anyone who's had their summer vacation ruined by a cold knows that infections can strike at any time of the year. Vacations often involve travel to new places and contact with new people, factors that dramatically increase exposure to new versions of viruses not recognized by the immune system. Air travel also raises risks of infection, as recycled cabin air concentrates and spreads airborne viral particles that can penetrate the mucous membranes of the nose, eyes and mouth.

ImmunoPhase® is an advanced, all-natural herbal formula that supports the immune system to aid the body in defending against colds and flu by repelling viruses before they have a chance to spread. And when taken at the first signs of infection, *ImmunoPhase*'s powerful blend of immunosupportive herbs—including *Ilex*, *Isatis* and *Forsythia*—can support rapid recovery from nasal congestion, headaches and stuffy head symptoms.

Most people experience an immediate effect and clear reduction of symptoms within 2 hours of taking *ImmunoPhase* the very first time. Continued use can stop a cold or flu quickly and reduce symptoms, as well as confer protective benefits with regular use.

Can I Take ImmunoPhase Every Day to Strengthen My Immune System?

This is one of the questions I frequently have to answer as Tango's product specialist. The answer is a definite yes. However, combining *Vital Cell* with *ImmunoPhase* offers even more potent support for building the immune system and fighting off colds and flu than either formula alone. This combination allows you to quickly boost immune function to counter the immediate threat of an infection while building immune system strength over time.

Strengthening the Immune System with Vital Cell

Vital Cell, recognized for its ability to enhance circulatory health, is also an excellent immune system support formula. One of the primary herbs in the *Vital Cell* formula, *Astragalus root*, is the leading immune system-building herb in

China. Consequently one always finds astragalus in formulas designed to restore impaired immune function following chemotherapy and radiation therapy.

As reported previously, consistent use of *Vital Cell* has been shown to preserve both the size and function of the thymus gland, an important regulator of immune performance throughout the body.⁽¹⁾ In one hospital study of *Vital Cell*, 44 patients were shown to have the following positive changes in immune function:

- **Increased lymphocyte transformation rate** (for improved efficiency of cellular immunity)
- **Increased rosette formation** (for improved immune function of red blood cells)
- **Improved plasma/globulin ratio**

Supporting the Immune Response with ImmunoPhase

I often recommend that people take *two capsules of ImmunoPhase* daily during the cold and flu season to keep the immune system tuned up and prepared to ward off infection. If exposed to a virus at home, work, or while traveling, increasing this protective dose to *two capsules, three times per day*, can boost the immune system to help control infection before it becomes a major problem. If symptoms of a cold or flu worsen, increasing the dose to *two capsules every three hours* can help to bring the problem under control.

Once all symptoms have passed, continue taking *ImmunoPhase* at the higher rate for *one additional day* to prevent a rebound infection. And if the infection leads to bronchial irritation, adding *BronchoPhase* is an effective way of quickly resolving cough.

For the elderly and those whose immune systems have been weakened by illness, surgery, overwork, or stress, adding *Vital Cell* to these regimens can further support and boost the immune response.

Preventing Viral Infections to Reduce Arterial Inflammation

Reducing the frequency and intensity of viral infections has been shown to also confer a measure of protection for the heart and arteries. Research reveals that

viral infection can trigger chronic inflammation of the endothelium, or lining of the walls of arteries, and lead to the formation of artery-clogging plaque (atherosclerosis).^(2,3,4,5)

Strengthening the immune system to reduce the number and severity of viral infections can aid in preventing chronic arterial inflammation and reducing the potential for arterial disease.

Adding two capsules of *ImmunoPhase* to a daily regimen of *Vital Cell* can benefit arterial health by supporting the immune system when threatened by chronic inflammation. *Ilex root*, a strong anti-inflammatory, anti-viral herb contained in *ImmunoPhase*, is used in Chinese hospitals specifically for arterial inflammation.^(6,7) Other important herbs contained in *ImmunoPhase*, such as *Pueraria root*, *Lonicera flower*, *Forsythia flower*, and *Isatis root*, provide important isoflavones that have been shown to improve arterial health and enhance blood circulation.^(8,9)

In conclusion, the combination of herbs contained in *Vital Cell* (circulation support formula) and *ImmunoPhase* (immune support formula) have been shown to synergistically benefit both the circulatory and immune systems.

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Addressing the Contamination Crisis: Verifying the Safety of Imported Herbs

By Jim English

We've recently heard from readers concerned about the growing problem with tainted products imported from China. While these problems are serious, (i.e., melamine in pet foods, diethylene glycol in toothpaste, antibiotics in fish, etc) there have been no recent reports of similar problems with herbal products. Still, we take product purity very seriously and view the current situation as an opportunity to address the issue as it relates to our formulas.

All Tango Advanced Nutrition formulas are manufactured to the highest standards and are guaranteed to be safe, effective and free of adulterants. Our formulas are processed in certified Good Manufacturing Practice (GMP) facilities and are thoroughly screened before receiving an export license.

Upon arrival in the US each formula must be cleared by US customs and released by the FDA before being forwarded to an American certified GMP facility for packaging. Finally, prior to assembly and packaging (i.e. encapsulation or tableting, bottling, safety seals, etc.), each formula again undergoes an additional panel of extensive testing in one of two certified ISO 17025 analytical laboratories to confirm that they match our specifications and Health and Safety Guidelines for potency and purity (Fig. 1).

Selecting Safe Products

To understand why we go to such lengths—and why our company is especially dedicated to quality control issues—requires some additional explanation.

Tango was founded on the basis of a unique relationship with leading herbal researchers affiliated with the *Chinese Academy of Sciences* in Beijing, China. Even as we drafted plans to form Tango in order to introduce several new breakthrough formulas developed by these gifted researchers, we were acutely aware of the need to address the serious issue of heavy metals, pesticides and pharmaceutical contaminants that often turn up in low-quality herbal formulas. Consequently, from the very beginning we were committed to ensuring that all of our formulas would be contaminant-free. To achieve this goal we implemented an extensive, multilayered product evaluation process a full two years before we introduced our first formula.

When considering a formula for evaluation we begin with a thorough check on the institutional source of the formula (i.e.

National Academy of Sciences, Beijing, or the *Academy of Traditional Medicine*, Shanghai, etc), the source of the raw materials that serve as the foundation for the formulas, and most importantly, the developer of the formula (i.e. Dr. Dexin Yan, *Vital Cell®*, *Herbal Boost®* and *ImmunoPhase®*, Dr. Chuang, *MetaPhase®*, etc.).

This selection process is greatly aided by the fact that every formula we review is already approved for in use in Chinese hospitals, medical schools and teaching clinics. Strict adherence to this product screening process has resulted in access to a selection of complex herbal formulas designed by leading anti-aging scientists and researchers



Fig. 1. High Performance Liquid Chromatograph used to verify purity of Tango formulas.

in China. In fact, all but one of our formula designers works with, or is affiliated with, the National Academy of Sciences in Beijing. The sole exception is Dr. Jake Fratkin, one of the most respected herbal researchers in the United States, and the formulator of our *BronchoPhase®* formula.

Analytical Testing

Once we select a formula for evaluation, the next step is to submit samples to an extensive battery of tests capable of detecting 600 potential contaminants and drugs, some of which have previously been found in imported and domestically produced supplements. Once the samples are cleared, they undergo further testing to assure that the formulas exceed FDA and *United States Pharmacopeia* (USP) limits for lead, cadmium, mercury and arsenic. All of these tests employ state-of-the-art atomic absorption and high-speed gas chromatography and mass spectrometry analysis to detect even the most minute levels of heavy metals, pharmaceuticals, chemicals and pesticides.

The final step in our selection process is to construct a sophisticated analytical "fingerprint" of each formula to verify that all future batches match for consistent ingredient composition and purity.

Clinical Validation

Once we are satisfied with the safety and composition of a formula we enter into the final, and in our opinion, most important stage of product evaluation—efficacy; i.e. does the formula really do what it's supposed to do? This process, which takes anywhere from six months to more than a year, involves medical practitioners and clinics around the country who assist us in conducting in-clinic evaluations of each formula.

While comments and feedback from doctors and patients weigh heavily in this stage of the evaluation process, the most compelling factor in our final decision is demand: when the results are so clear that clinics and doctors begin to request larger quantities for their patients, we know we have a good formula. In the final analysis, our product selection process is driven by the pull of demand, rather than the push of marketing.

Ongoing Evaluation

This last phase of product evaluation marks the tipping point where we often decide to reject a candidate formula without further consideration. Regardless of the time and money invested to prepare a formula for clinical evaluation, if it isn't demonstrably *more* effective than other formulas currently available from other sources, we close the books and move on to more promising candidates. For this reason, over the last four years we have evaluated, and rejected, dozens of formulas purported to support an array of health concerns ranging from prostate issues to Alzheimer's disease and sleep disorders. Adherence to this standard is the reason why Tango offers such a limited number of formulas – only 9 at present.

At any given time we are actively evaluating anywhere from 6 to 10 promising formulas from the dozens submitted to us each year. Current candidates include formulas for people concerned with urinary incontinence, blood pressure, Alzheimer's disease, rosacea, chronic constipation and gum disease. And while we have high hopes for each of these formulas, if even one survives our testing and verification process to eventually be included in our product line, we can take pride in knowing that we've done all we can for ourselves and our clients.

Jim English
President/CEO

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Beta Cells

Continued from front page

Type 2 diabetes. In the US, there are over 20 million people with Type 2 diabetes, equal to seven per cent of the population. Patient care costs are thought to be as much as \$132 billion, with \$92 billion in direct costs from medications, according to 2002 *American Diabetes Association* figures.

“Thus, our studies support the notion that supplementation of *Cucurbita* fruit extract to diabetic patients would help in achieving good glycemic and metabolic control and prevent long-term complications as a result of the protection offered by its antioxidant actions, probably by preserving the residual beta-cell mass without further losses,” they concluded.

Commenting independently on the research, David Bender from Royal Free and University College Medical School, London, told *Chemistry & Industry* magazine that the research was very exciting. “The main finding is that feeding pumpkin extract prevents the progressive destruction of pancreatic beta-cells,” he said.

Herbal Support for Diabetes

In the late 1980s, Chinese doctors became alarmed by a huge increase in the incidence of diabetes in China. Observing that this previously rare condition appeared to be linked with newly adopted Western eating habits, they initially relied on Western diabetes drugs to treat what was perceived to be a primarily Western disorder. Eventually medical experts turned away from this approach after noting that, in addition to serious side effects, modern pharmaceuticals also failed to address the underlying cause of the problem.

A central tenet of Chinese healing is to treat both acute symptoms and the underlying cause of an illness. Based on this principal, leading Chinese researchers turned their attention to traditional herbal remedies used in China for thousands of years.

Researchers soon identified some 200 species of herbs that exhibited hypoglycemic (blood sugar lowering) properties. Some contained polysaccharides capable of restoring pancreatic tissues to enhance insulin output from functioning beta cells. Others were found to enhance microcirculation to increase availability of insulin and facilitate cellular metabolism.

One of the most promising herbs to come out of this research was the lowly

pumpkin, *Cucurbita ficifolia*, which is widely regarded throughout China as a health food especially suited to aid diabetics by regulating blood sugar levels.

Modern Herbal Solution

After ten years of clinical research, a team of doctors led by Dr. Chuang of *Shanghai People's Hospital*, introduced a unique herbal blend, *MetaPhase*, to counter

“Cucurbita (pumpkin) is one of the primary active ingredients in MetaPhase.”

insulin resistance, lower blood sugar levels and restore pancreatic function. *Cucurbita* (pumpkin) is one of the primary active ingredients in *MetaPhase*.

Dr. Chuang, a medical researcher with experience in treating diabetes with both Western drugs and Chinese herbs, is also a Type 2 diabetic who successfully brought his own blood sugar levels into normal range using *MetaPhase*.

By restoring healthy blood sugar regulation and normalizing insulin production *MetaPhase* has been shown to aid in reversing chronic metabolic and chemical disturbances caused by long-term exposure to elevated insulin and blood glucose levels. Additionally, by curbing carbohydrate cravings *MetaPhase* has been shown to support safe and natural weight loss.

Using MetaPhase

Based on his clinical experience, Dr. Chuang recommends taking three capsules of *MetaPhase*, three times daily, 30 minutes prior to meals. The combination of herbs in the formula will stimulate a steady improvement that becomes most noticeable in 7 to 10 days. Once blood sugar and insulin levels have returned to normal—commonly within 1 to 3 months—Dr. Chuang recommends a daily maintenance program consisting of one capsule in the morning and one in the afternoon before meals to sustain optimal results.

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Letters

With John Steinke, L.Ac. Licensed Acupuncturist and VP of Product Development for Tango Advanced Nutrition, Inc.

MetaPhase and Improved A1C Test Scores

Dear John,

I am writing to tell you about our continued success with *MetaPhase*. When we first started taking *MetaPhase* over a year ago our morning blood sugar measurements dropped from the high 140's down to about 110 when taking 2 capsules, twice daily. Harold had lost about 15 pounds and I lost about 8. Both of us noticed that our food cravings were slightly reduced, which is amazing since neither of us are great dieters.

Most importantly, prior to taking *MetaPhase* our A1C levels were both around 7.5, which our doctor was very concerned about. Then, after six months on *MetaPhase* Harold's A1C level dropped to 6.9, and mine was down to 7.1.

Now, a year after those last results, we have just received the latest A1C numbers from our doctor. To our delight, Harold's A1C has dropped again, and is now down to 5.4, the lowest level ever. My A1C is down to 6.3. I must admit that I have not been as diligent about taking *MetaPhase* as Harold has been, and the results show.

Regards,
Myrna S.

NAC (N-acetylcarnosine) Eye Drops Now Available as Can-C

Dear John,

Would you be good enough to tell me where I can obtain *OcuPhase*TM N-acetylcarnosine eye drops? My ophthalmologist recommended these eye drops to reduce or cure my cataracts.

Many Thanks,
Allan A.

Dear Allan,

These unique eye drops are now available from a reliable source, Smart Nutrition. The manufacturer is directly involved with Dr. Babizhayev, the original developer of N-acetylcarnosine eye drops, and the eye drops are manufactured under license to his company, Innovative Vision Products (IVP).

Each box contains five vials, 2 ml each, and lasts between one and two months, depending on whether two or four drops per eye are being used each day. The drops can be safely stored at room temperature, but once the vials are opened they should be kept in a refrigerator and discarded after 21 days. Unopened boxes have a shelf life of up to 2 years from the date of manufacture. The eye drops can be ordered at (800) 599-8607.

Herbal Boost for Mental and Physical Support

Dear John,

I have used your products for a number of years and have had excellent results. I consider Tango products to be one of the finest and purest lines around.

My husband has had skin cancer for over 10 years and we have used only herbal supplements to rid him of this disease. We used internal capsules and escharotic salves, which can be extremely painful for 3-5 days, drawing the cancer to the surface.

This particular time, the cancer was taking its toll on him because it spread across one side of his chest. As you know, during these times, the health of a cancer patient can be drained. I received your *Nutrition Review*, which had an article on *Herbal Boost*, and I decided to purchase some to revive my husband's mental and physical health.

I never imagined just how well the *Herbal Boost* would work. We stopped all other protocols and only used the *Herbal Boost*. Within two weeks, he was peppy and revived. It was a miracle, like seeing a puppet at rest and then the strings are pulled to bring the puppet to life. That was how my husband responded to *Herbal Boost*.

We now use both the *Herbal Boost*, when needed, and the *Vital Cell* for maintenance. I thank your company for providing these fine products to individuals who are averse to using the slash and burn procedures used in most doctors' offices. Hopefully, your products will be available for many, many years to come.

Sincerely,
Ruth H.

CardioPhase, Arjuna and Heart Palpitations

Dear John,

In the past I took *Vital Cell*, but for some reason I switched to *Arjuna* (I can't remember why I did so). My problem is heart arrhythmia. Two years ago I was treated with ablation therapy to correct my atrial fibrillation, and while I am much better now I still have some unpleasant palpitations.

In your previous message you mentioned that perhaps *CardioPhase* would be better than *Vital Cell* in my situation. My question now is, can I continue taking *Arjuna*? Do these two formulas do a similar job or are they in conflict with each other. Or are they possibly complementing each other?

I want to thank you for taking your time to reply to my question, and I wish to express my compliments for your professional service, which is very much appreciated, however rare among the suppliers of supplements. Actually, when addressing these companies they either don't reply at all or say that they do not have any professional experience and tell me to ask my doctor. Unfortunately, my doctor doesn't know much about alternative medicine and may be offended if I ask about such subjects. So, again, many thanks in advance for your kind answer.

Jan V.

Dear Jan,

It appears that Arjuna is a useful ayurvedic herb. You should continue using it if you feel it is helping. CardioPhase is a complex, multi-herb formula from a leading research team in China that research shows has excellent benefits for heart palpitations. All herbs make gentle contributions to an overall good response through slightly different pathways. This makes a formula safe and yet very helpful. You can safely take CardioPhase with Arjuna, as CardioPhase will add a broad spectrum of complementary benefits.

Best wishes for positive results.

John Steinke, L.Ac.