

# Immune System Stimulation: Thymic Protein A

By Scott E Miners

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**R**ECENTLY TWO FRIENDS OF MINE were diagnosed with different types of cancer in varying stages of advancement. Both chose to go to a cancer treatment center that uses the services of naturopathic physicians as well as oncologists—complementary medicine in action. Both were given treatment options and were advised to take a number of natural supplements to help boost their immune systems and detoxify their bodies. Prime among those was a biologically active thymic protein for immune system stimulation.

What is thymic protein A (TPA)? It is a specially produced molecule, a whole thymic peptide, cultured from a live cell line of calf thymus and grown in a laboratory. It was designed to raise levels of an important thymus protein, and supplementation with it has been shown to stimulate cell-mediated immunity.

The thymus, a ductless gland located just beneath the breastbone, produces proteins that help the maturation process of a type of white blood cell formed in the bone marrow. These T-lymphocyte cells (known as T-cells) either coordinate the immune response or directly attack invading pathogens and diseased cells, such as cancer cells. T-4 cells are helper cells that recognize certain types of antigens

[toxic or foreign substances] and initiate immune responses. The T-4 cell receives its programming from a specific thymic protein. Thus we see the importance of healthy thymus function in immunity.

Terry Beardsley, PhD, an immunologist and experimental biologist from Baylor College of Medicine, in Texas, discovered thymic protein A while conducting cancer research. What Beardsley had discovered, Ward Dean, MD, writes,

“was a complete, biologically ‘intact’ 500-amino chain protein that fits into the receptor sites on T-4 cells to ‘turn on’ and program the cells for their disease-fighting functions. Beardsley named the peptide Thymic Protein A (TPA).”<sup>1</sup> There were several clinical studies, says Dean, “involving both animal (feline AIDS and distemper) and human (chronic fatigue syndrome [CFIDS] and Epstein-Barr [EBV]) subjects,” using “a



unique oral delivery system” for Beardsley’s formulation that “avoided the degradation of the thymic protein in the stomach—a significant problem with other over-the-counter oral thymic preparations.”

Beardsley was awarded a US patent in 1997 based on the data from these studies for both the thymic protein A molecule and his method of production for this “immune-enhancing agent for use in immunocompromised hosts.” In

vitro and animal studies have shown that the protein helps activate immune system functions that protect the body from pathogenic viruses, bacteria and fungi, as well as cancer cells.

Thymus function often begins decreasing after puberty, and by age 45 there may be significantly diminished thymus protein production. Factors that may further impair the thymus are: unmanaged stress, exposure to radiation or chemicals, chronic disease, and various physical or mental traumas; indeed, the most common viral infections, such as chickenpox, measles, and Epstein-Barr, can impair thymic activity. Researcher James Lapcevic, DO, notes that all of these conditions may inhibit the thymus from initiating the immune response.<sup>2</sup>

Lapcevic also states that researchers have uncovered about thirty proteins manufactured by the thymus gland. Thymus glandulars and drugs such as thymosin, which contain fractions of a protein, have been available for use for years, but with very little effectiveness in enhancing immune function. However, Beardsley discovered that this one protein, TPA, can help take over the work that the thymus used to perform during its youthful years. He isolated this single protein that produces all of the immune activity of the mixed thymic protein cultures. TPA fits the receptor site of the T-4 cell, and it is more bioavailable than thymic protein fractions. It stimulates the immune system by programming T-4 cells to distinguish between wanted or unwanted tissues and substances in the body.

That the thymus often shrinks with aging and stops producing the same quantity of thymic protein as before means, of course, that the immune system might become less powerful. TPA causes the T-4 lymphocytes to mature, initiating a specific cell-mediated immune response.<sup>1</sup> Among other factors, thymic protein A stimulates production of interleukin.<sup>2</sup>

TPA can be taken on a regular basis to protect against invading pathogens. It regulates the body's immune system and can also be used in the treatment of any illness that might be the result of a deficiency in immune system function, including illnesses caused by HIV. There is evidence it is beneficial in treating cancer and in offsetting the toxic effects of chemotherapy on the immune system.

TPA was introduced as a supplement in October of 1996,

as "Thymic Protein A" the licensed brand of the patented substance, which is distributed as ProBoost. As such, TPA is marketed as a purified, freeze-dried powder with a shelf life of several years. It is available in single dose packets of 4 micrograms. The powder is administered sublingually, as stomach acids would destroy the protein. Maintenance doses begin at 2 micrograms daily and range up to 8-12 micrograms/day for serious immune deficiencies.

There are no known side effects or toxicity from TPA. It is a substance the body already naturally produces. There is, however, one contraindication for taking TPA: people taking large doses of steroid hormones will not benefit from it.

TPA helps the immune system perform as it should in its

ideal state. Julian Whitaker, MD, recommends a maintenance dose of thymic protein for the aging, even if you are generally healthy. He writes, it is "likely the most powerful natural stimulant of the immune system ever discovered." He uses himself as a guinea pig: "I was terribly sick with the flu. One of my associates at the clinic brought a powder called Thymic Protein A over to my house. [The next day], though I was weak, I was well. The flu could have simply run its natural course, but my recovery was so dramatic that

no one will convince me that this thymic protein didn't have something to do with it."<sup>3</sup> Δ

**Note:** ProBoost Direct, the quality source for Thymic Protein A: Contact: 1-800-763-6077 or purchase securely online at <https://www.ProBoostDirect.com>

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#### References:

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2. Lapcevic J. "A New Biologically Active Thymic Protein to Stimulate Cell-Mediated Immunity." *Townsend Letter for Doctors & Patients*. February/March, 1997. Last accessed June 26, 2014. [www.tldp.com](http://www.tldp.com).
3. Whitaker J. *Health and Healing*. March 1997, PO Box 60043, Potomac, MD 20859-0042.

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