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# **POLY-MVA :** **One of a Kind** **Product**





# Introducing Dr. Garnett and the Development of Poly-MVA



Lipoic Acid Mineral Complexes and Poly-MVA were discovered and developed by Dr. Merrill Garnett, a researcher, biochemist and head of the Garnett McKeen Laboratory in Long Island, New York. Dr. Garnett's research lies in the emerging field of Electro genetics, developing electro-active compounds that target metabolic pathways. Dr. Garnett has received U.S. patents for his work.

For over forty years, Dr. Garnett has delved into the secrets of molecular biology and the biochemistry of cells. He realized that certain cellular functions were the failure of some cells to regenerate and replace themselves normally. He theorized that this failure of some cells to mature was a problem with the energetics (energy production, transference and regulation) in the cells and their complicated metabolic cellular interactions.

Dr. Garnett's research expands on the concept that all normally developed cells contain a specific inward (or directed) energy flow in and around DNA/RNA, organelles that start in the Mitochondria and the cells' energy cycle. He has researched those pathways which support proper electron or energy flow. Normal development requires a certain amount of energy and Dr. Garnett realized and found that by introducing supportive or symbiotic energy pathways normal cells and proper metabolic function can benefit.

Dr. Garnett began a long and difficult search to find a natural molecular compound that would support healthy pathways for normal development. Within those cell pathways that were missing, or deficient, his targeted cellular energy could be used to stabilize proper metabolic function. More specifically, he searched for a natural organic compound that would act as a metabolic shunt to support the cells' healthy metabolism, or energy pathways.

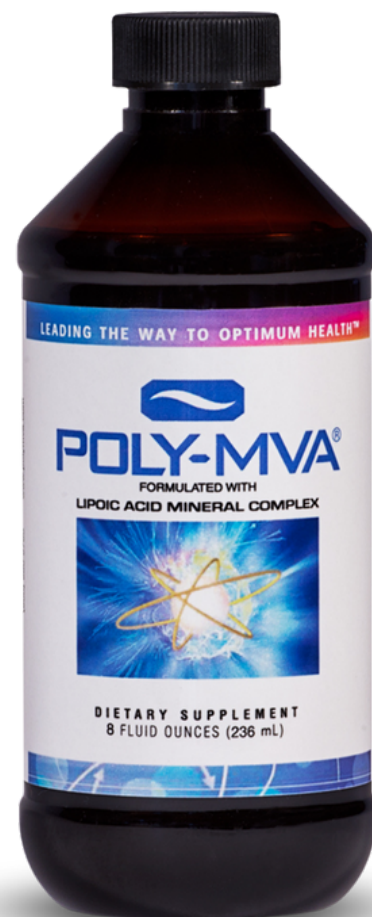
After testing some 20,000 compounds, Dr. Garnett discovered that alpha lipoic acid bound to the mineral palladium and covalently bound to B-1(thiamine), created an extremely useful and safe cellular nutrient. Thus, in 1991, came about the biochemical formula known as Lipoic Acid Mineral Complexes, from which POLYMVA was derived. Multiple tests have shown Lipoic Acid Mineral Complexes to be safe and effective. His complete journey can be found in his research and literature and as well as his personal journey detailed in his book First Pulse.

Dr. Garnett's work continues in cooperation with other researchers and organizations to determine the mechanism and impact of the Lipoic Acid Mineral Complexes for other uses and in developing other powerful supplement compounds.

# POLY-MVA

Poly-MVA is a uniquely formulated dietary supplement containing a proprietary blend of the mineral palladium bonded to alpha-lipoic acid, Vitamins B1, B2 and B12, formyl-methionine, plus trace amounts of molybdenum, and ruthenium. This formulation is designed to provide energy to enhance the body systems by changing the electrical potential of cells and promoting proper or normal metabolism within the cell. \*

A member of the Lipoic Acid Mineral Complexes (LAMC), Poly-MVA may assist in boosting immune response by replenishing key nutrients and supporting cellular metabolism. What makes Poly-MVA unique is the proprietary manufacturing process by which the mineral palladium is sequestered/bound to lipoic acid. No other company produces a product like Poly-MVA due to the preparation and bonding process through which LAMC is manufactured. The proprietary formulation of LAMC with other vitamins, minerals, and amino acids provides specific nutritional support, helping to enable optimum functioning of essential body systems.



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# POLY-MVA:

## Ingredients

**Alpha-Lipoic Acid** (also known as “LA” or “thioctic acid”) in LAMC works to help the body to produce energy by recycling the free radicals rather than just quenching them. LA has also been shown to support the liver in removing harmful substances from the body. Studies indicate that LA assists in protecting cells and supporting the natural detoxification process that removes heavy metals from the bloodstream. Because of its many benefits lipoic acid has shown to be supportive in healthy blood sugar metabolism as shown in many published studies.

As a powerful antioxidant, LA helps to neutralize the free radicals that influence the aging process and the breakdown of normal cellular processes. LA is both water and fat soluble, so it easily passes across the bloodbrain barrier and is functional in most parts of the body.

Vitamin B-1 (thiamin) is a coenzyme that, in combination with lipoic acid, is involved in the decarboxylation of pyruvate and the oxidation of alpha keto-glutamic acid. These functions are essential to energy production, metabolism of carbohydrates and neurotransmitter function. B-1 is water soluble and is not stored in any quantities in the body.

Vitamin B-2 (riboflavin) is vital to maintaining metabolism and supports multiple body systems that may include immune, nervous and oxygen delivery.

Vitamin B-12 (also known as cobalamin) is in its most common form cyanocobalamin, which is broken down to methyl cobalamin by the body. It is generally found only in meat and dairy products.

Molybdenum is an essential trace mineral. It is crucial in regulating pH balance in the body, which in turn directly affects oxygenation of cells and tissues and influences the metabolic rate of the body.

Research indicates that B-1 activates membrane ion channels, possibly by phosphorylating them. The flow of electrolytes like sodium and chloride in or out of nerve and muscle cells through membrane ion channels plays a role in nerve impulse conduction and voluntary muscle action.

**Methionine** is an essential sulfur based amino acid, an important component of cartilage building blocks such as proteoglycans and glycosaminoglycans. It is incorporated into tissue proteins and enzymes and is a component of active peptides, including methionine enkephalin and various endorphins. One of the main roles of methionine is as a methyl donor, contributing to numerous physiological pathways in the body, including formation of myelin components. In one such pathway, methionine converts to s- adenosyl methionine. In studies, L-methionine has demonstrated the ability to promote healthy cellular metabolism, enzyme activity and glutathione concentration. In the body, it converts to L-cysteine and therefore is potentially beneficial in liver detoxification and in neutralizing toxins.\* It has been shown to support healthy copper and lead serum levels.\* L-methionine is considered important for liver fat metabolism, healthy skin and nails and energy production. Methionine, like choline and betaine, is also a lipotropic compound supporting lipid metabolism and enhancing healthy hepatic function. In combination with antioxidants, methionine may help in proper pancreas function.

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# **POLY-MVA: ONE OF A KIND PRODUCT**

When lipoic acid, a powerful antioxidant with many biological functions, is connected to an electrically charged mineral substrate, and associated with B vitamins, the resulting complex solution has solubility in both water and fat. This means it can travel to all cells throughout the body. This combination was designed to support energy production while protecting the tissues from oxidative stress, as a nutritional supplement, Poly-MVA is unique in its ability to support nutrition, cellular energy and optimum health.

Poly-MVA is a novel supplement which demonstrates an enhanced redox capacity. This means it is extremely efficient at accepting and donating/transferring electrons (ENERGY). Publications and research observations have demonstrated its ability to provide cellular energy to target low energy levels and attenuate metabolic changes of cells. It has a unique mitochondrial action because healthy cells have oxygen pathways. Normally, oxygen radicals are formed when fatty acids donate electrons to oxygen. These oxygen radicals have an unpaired electron charge and are unstable. Special proteins in the mitochondria convert the oxygen radicals into water and usable energy. Poly-MVA can support the process to protect, assist and facilitate these actions while also supporting Krebs Cycle Enzymes.

These nutritional ingredients in Poly-MVA may provide support for the following:

- Assist the body in producing energy
- Support the protection of cells
- Assist in promoting healthy cell function
- Supports mitochondrial health
- Supports Krebs cycle activity
- Support from oxidative damage
- Unique and powerful antioxidant
- Support Liver function
- Support nervous system
- Helps to maintain cells and tissue health

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# Lipoic Acid Mineral Complexes: A Breakthrough In Nutrition & Optimum Health

THE DESIGN OF LIPOIC ACID MINERAL COMPLEXES (LAMC) began with the concept of protecting and supporting normal cellular processes as an approach to proper metabolism by using a mechanism that would 'mimic' of a pathway/cellular process that already exists in normal metabolic cellular function. This is a major departure from the current concept. The ongoing research for topics like immune system support and its responses to maintain calm tissue and cellular homeostasis is showing as an important factor in optimum health. Current science and research continue to develop more integrative and combination-based approaches on taking care of and targeting cell health, especially the mitochondria. Research indicates and various studies validate, that the lack of nutrition and cellular support along with the increase in free radical damage and oxidative stress play a key role in poor health and improper cell function. The focus has changed in the 21st century to emphasize an integrative nutritional dietary approach, and a more cellular base approach in the understanding of how our bodies, its systems and especial specialized cellular systems work.

In 1991, Dr. Merrill Garnett developed and patented a Lipoic Acid Mineral Complex as a metallo-vitamin. Other compounds, such as Poly-MVA, were also developed by Dr. Garnett and formulated specifically for use as nutritional supplements. The complexes achieve their effectiveness through the specific changes they contribute to energy metabolism for normal cellular function. These complexes are continuously undergoing research and testing so that they may be used and available for ongoing research.

## LIPOIC ACID MINERAL COMPLEX FUNCTIONS

Lipoic Acid Mineral Complexes are a unique new class of polymer, or orthomolecular molecules, composed of vitamins, minerals and amino acids which have powerful properties. LAMC complexes are nucleotide reductases (enzymes that catalyze a chemical reduction protecting cellular processes). The lipoic acid molecules are irreversibly bound with the mineral palladium and covalently bound to the vitamin B1 (thiamin) through an exclusive patented process that takes full advantage of each of their unique characteristics. The metabolic approach of the cell and the change in its metabolism are directly related to the health and function of our body. LAMC complexes are designed to support and protect our cells. Some of the powerful properties of Lipoic Acid Mineral Complexes are:

- Synergistic with various vitamins & minerals
- Intracellular electron donor
- Stronger than alpha lipoic acid
- Supports reductive cell processes
- Protective against oxidative stress
- Supports ATP & intra-cellular hydration

The LAMC complexes can shunt/accepting energy/electrons from itself to cellular mechanism, reducing the charge to the DNA, thereby protecting it from oxidation. Electrochemistry data demonstrates that LAMC complexes are potent redox polymers, and as such can both accept and donate energy (electron charge transfer). Since many cellular functions require the presence of electrons, LAMC can be used as support and potentiate normal cellular function. This lipoic acid polymer protects the cell (absorbing free radicals due to the lipoic acid component) and then donates that energy to the electron transport chain complexes of the mitochondria because of the Thiamin B-1 component. This is the mechanism by which it can support the Krebs cycle activity and stabilize the electron transport chain helping to support and upregulate the metabolic needs of the cell.

Extensive human and animal use of Lipoic Acid Mineral Complexes, for over 20 years across the globe, indicates that we have only scratched the surface in determining how many ways Lipoic Acid Mineral Complexes may be beneficial. They have been shown to be very effective in quenching free radicals, providing protection from oxidative stress, working at the cellular level via the electron transport chain, supporting the mitochondria protecting our cells. Reviews have shown that improved energy and overall health is supported within a few weeks of use along with well-being, clarity and sense of wellbeing.

Benefits of Lipoic Acid Mineral Complexes include:

- Supports normal cell health
- Helps metabolic function
- Supports a healthy aging process
- Supports healthy cellular function and energy levels
- Protects cellular DNA
- Use free radicals for energy
- Unique combination of minerals, vitamin, and antioxidant

### Metabolic Modulation and Targeted Support

Low energy caused many times by low oxygen can trigger a series of cell changes due to low metabolism resulting in a different metabolic environment and low cell function. These differences can render the normal cell weak due to metabolic changes. Normal metabolism and low or inefficient metabolism can benefit from the same mechanism that support and target mitochondria.

Poly-MVA exists as a nutritional supplement that is unique to free radical biology, the mineral palladium is a transition mineral that can catalyze chemical reactions, in this case aerobic respiration, thus supporting our cells electron transport chain and its ability to make energy. This enhanced ability to both accept and donate charge has significant cellular implication. By utilizing this novel redox molecule, studies have demonstrated the ability to take advantage of the metabolic changes and help support proper cellular function. In contrast, the supplemental energy may provide a boost to the cells. Furthermore, the LAMC formulation is a potent free radical scavenger.

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# Frequently Asked Questions

## Answers to Poly-MVA

Write down some notes and questions to discuss with your professional on how Poly-MVA can integrate into maintaining your health.

### What is Poly-MVA?

Poly-MVA is a unique patented dietary supplement that is the first in a remarkable new category of supplements known as Lipoic Acid Mineral Complexes. Its unique, patented proprietary blend of the mineral palladium, alpha-lipoic acid, vitamins B1, B2, and B12, the amino acid formyl-methionine, and trace amounts of molybdenum and ruthenium.

### What is Lipoic Acid Mineral Complex and what makes it special?

Lipoic Acid Mineral Complex is an extraordinary compound that chemically bonds a unique mineral, (palladium) to alpha-lipoic acid (a powerful antioxidant) and Thiamine B-1. The process and steps of bonding these two materials together are so unique that there is a patent on it. The sequestering/binding of the mineral palladium with alpha-lipoic acid dramatically increases nutrient absorption at the cellular level and throughout the body. This is an exclusive breakthrough that distinguishes Poly-MVA from any other supplement.

### How does the mineral palladium work in Poly-MVA?

Within Poly-MVA, the proprietary lipoic acid mineral complex acts in a similar way to the cobalt found in Vitamin B-12 (cyanocobalamin). The mineral is sequestered, in other words, it is bound on all sides to the lipoic acid creating the Lipoic Acid Mineral Complex that is found in Poly-MVA. The mineral serves primarily as a bridge or pathway to transport and share electrons between the Alpha Lipoic Acid and its Thiamine counterpart. This mechanism dramatically enhances energy or electron transport for the mitochondria in our cells. This has been shown to have an effect on the electrical potential of the cell, which simply means energy and ATP support. While the lipoic acid mineral complex contained in Poly-MVA provides a significant portion of the unique action of the supplement, other important co-factors that include minerals, vitamins, and amino acids support the function of the LAMC complex contributing to the support of the body's natural mitochondrial processes.

### Why do people take Poly-MVA?

People take Poly-MVA for optimum health and maximum nutritional support. It is designed to increase energy, reduce occasional fatigue, help to enhance overall health and well-being, and provide nutritional support for those who may have nutrients depletion. \* Many people have found Poly-MVA to improve their health and well-being.

1. Advanced antioxidant/free radical protection\*
2. Offers fast-acting, immediate absorption due to the liquid medium\*
3. Supports energy production at the mitochondrial level\*
4. Supports quality of life
5. Promotes overall health and may replenish lost nutrients.\*

The late Dr. Rudy Falk, MD, said, "Poly-MVA has properties that make it beneficial in supporting and optimizing cellular functions, providing protecting shows promise in helping to re-energize cells."

### What amount of Poly-MVA do I take?

The amount you may use will depend on desired results and of course other various factors: Diet, age, physical activity, other supplements, etc. It is generally used between 1-8 teaspoons daily. Titrating up for 60-180 days and then finding your ideal maintenance cycle.

### Can people take Poly-MVA for daily support or any other reasons?

Yes. Poly-MVA is a unique, ideal, and superior oral supplement with multiple cellular support mechanisms. It was intended to help support many of the body's systems, enhance energy production, and improve quality of life. By providing high-quality, essential nutrients in a unique form and complex to better support the structure and function of the body.\*

### How long does a bottle last? How much do people normally take?

How long a bottle lasts depends on how much you take and what size bottle you order. If you are using Poly-MVA to help maintain optimum health, a bottle can last a few months or more. An 8oz bottle of Poly-MVA could last as much as 192 days. However, for those who are using more of it to dramatically increase energy, a bottle may last 6 days.\* Use will vary in particular cases due to body mass, size, and age, but also due to other factors such as the individual's ability to absorb or utilize the product. Stay with the ongoing maintenance schedule for daily support after the loading period.

**DAILY NUTRITIONAL SUPPORT OR AS A LONGEVITY TONIC:** The recommended use is 1/4 tsp to 2 tsp per day, depending on body weight, etc.\*

**FOR MAXIMUM SUPPORT:** The recommended use begins with 1/4 to 1 teaspoon titrating up to a loading amount with daily increases over a number of days/weeks. Each person responds differently and you might find that the optimum benefit for you is maintained at the higher amounts for a longer period of time. Some may reduce the maintenance amount by 12-24 weeks. To view the complete guidelines click the button below.

## Guidelines

### How long does it take to get results?

Dr. Merrill Garnett, whose research led to the discovery of Poly-MVA, believes that most individuals will notice a difference in how they feel within the first 4-12 weeks. In some instances, we have heard of responses like energy, well-being, clarity and feeling better, etc. in just a matter of days.

### Poly-MVA history and safety?

The formulation of ingredients has been tested and shown safe and nutritionally effective since 1992. Poly-MVA is assimilated like nutrition and food for the body. During the initial development of Poly-MVA and Lipoic Acid Mineral Complexes, high doses were used to determine if there would be any adverse events; even at the highest administered dose (LD-50's-fifty times higher than the maximum recommended dose), no negative effects were observed in any of the tests. The natural combined and complex ingredients in the product along with its safety record used in humans and animals for over 25+ years, Poly-MVA has shown to be extraordinarily safe. It should still be noted that all of us are different and a few may have allergies and/or react differently. If this is the case, please discontinue use and notify us.

### Is there anything that may inhibit or minimize the effectiveness while on Poly-MVA?

Chelating agents, mitochondrial inhibitors, and certain extremely HIGH DOSE antioxidants, well above their recommended daily allowance should be separated and/or alternated when possible (we recommend waiting at least 2-6 hours before taking Poly-MVA). Poly-MVA not only absorbs/quenches the free radicals but utilizes them in the cells' energy cycle.\* Higher doses of alpha-lipoic acid should be minimized, discontinued, or separated because it may compete with the lipoic acid complex in the Poly-MVA. Many use Poly-MVA in replacement of their alpha-lipoic products. Tobacco products, alcohol may also slow down the uptake of Poly-MVA, in addition to working against the goal of optimum health.

### Why does it seem that this product is more costly compared to other supplements?

It is competitive with other dietary supplements in serving size, dosages, and most importantly Poly-MVA's nutritional benefits. Its unique ingredients are a combination of precious minerals, which are some of the most expensive minerals in the world (palladium is typically more expensive than platinum and now gold). Therefore, the manufacturing and processing of the cost of its raw materials are much higher than a typical supplement. In terms of the cost of the raw materials and manufacturing process vs. the selling price, Poly-MVA is comparable and it can replace combinations of other supplements. Its manufacturing margin is compatible with that of many other nutritional supplements.

### How long has Poly-MVA been in use?

Poly-MVA has been available in the U.S. since 1992. The first decade was primarily researched, publications, and presenting scientific and research data. There are many people around the world using and recommending Poly-MVA in their communities, health groups, clinics, social circles as part of a nutritional approach and overall lifestyle change including diet, general health, and well-being.

