Boosting KLOTHO Gene Protein Sharpens Memory And Learning at Any Age While Prolonging Life

This finding in *Cell Reports* could someday lead to products that improve memory and learning, researchers say. “We’ve discovered a way to potentially boost cognition,” says Dena Dubal, one of the study’s authors who does research on aging and the brain at the University of California, San Francisco. And that could mean “a very new way to treat diseases,” ranging from Alzheimer’s to schizophrenia, she says.

The hormone is named Klotho, after the Fate from Greek mythology who spins the thread of life. Scientists have known for more than a decade that people and animals tend to live longer if they have high levels of Klotho in their bodies.

And that led Dubal and researchers at the Gladstone Institutes to wonder whether a hormone that protects the body against aging might also protect the brain. So the team set out to see whether Klotho offered a way to “prevent the cognitive decline that comes with aging,” Dubal says.

To find out, they studied more than 700 people between the ages of 52 and 85. About 1 in 5 of these people had a form of the Klotho gene that causes their bodies to produce high levels of the Klotho hormone.

The team expected to find that people with high levels of the hormone experienced less cognitive decline than people with lower levels. “In fact what we found was not consistent with our hypothesis,” Dubal says. “We were completely surprised.”

What they found was that the people with lots of Klotho experienced just as much cognitive decline as other people. Their brains weren’t protected against aging at all. But their brains were different nonetheless, Dubal says.

“Those that carried the genetic variant that increased their Klotho levels showed better cognitive performance across the lifespan,” Dubal says. At any given age, people with lots of Klotho scored higher on tests of learning and memory, language and attention, she says.

So instead of discovering a way to protect the brain from aging, the team had found a hormone that appears to make people smarter.

To learn more, the team began studying mice that had been genetically engineered to produce high levels of the mouse version of Klotho. And this time, the researchers got exactly the result they hoped for. “Elevating Klotho made the mice smarter across all the cognitive tests that we put them through,” Dubal says.

A look at the brains of these mice suggested a reason. There was evidence that in areas involved in learning and memory, Klotho was causing a change that strengthened the connections between brain cells.

All this suggests that a product able to raise levels of Klotho might be able to help people with Alzheimer’s and other brain diseases, Dubal says, even if the substance didn’t stop the disease itself. “Our goal and vision is that there will be a therapy that improves the lives of people that are suffering from diseases of the brain,” Dubal says.

But any treatment based on manipulating Klotho levels in people (with drugs) remains years away, says Dubal.
Molly Wagster, who oversees research on cognitive change at the National Institute on Aging. The NIA and National Institute of Neurological Disorders and Stroke both helped fund the research.

“The beauty of this study is that the finding gives us another place to look, another path to take as we try to determine targets for the development of drugs,” Wagster says. It also raises questions about whether Klotho levels may be influenced by diet, exercise or brain activity – all of which have been shown to affect cognitive function in older people, she says.

There’s a lot researchers still don’t know about the Klotho, which was discovered in 1997. For example, it’s not clear why carrying one copy of the gene associated with higher levels of the hormone improves cognitive function while carrying two copies seems to impair function.

But knowing that a naturally occurring hormone affects cognition in both mice and people should speed efforts to find treatments for diseases that cause impaired brain function, Wagster says.

**How to Get More KLOTHO**

There may be some non-molecular ways of boosting Klotho. For example physical exercise may increase Klotho levels.

Big Pharma is racing to develop KLOTHO boosters to prevent calcification, chronic kidney and heart disease and to promote healthy aging. A person does not have to be tested to find out if they have inherited the Klotho-VS gene variant. They can boost Klotho on their own and will likely benefit.

Certain herbs are Klotho enhancers. Mushrooms grown in sunlight may elevate Klotho by virtue of their vitamin D content. For example, cordyceps mushroom has been cited as a Klotho booster.

There are indirect ways to increase Klotho’s biological activity, such as the use of the red wine molecule resveratrol that increases vitamin D cell receptor protein. Resveratrol, the red wine molecule, works synergistically with vitamin D and Klotho. A combination of Vitamin D plus resveratrol may be in order.

For the complete article see http://www.resveratrolnews.com/you-dont-have-to-lose-your-mind-to-live-longer/944/.

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**Cordyceps & Cordyceps Plus**

Coping with life’s everyday challenges can sometimes get the best of us. Particularly, if our health is not as robust as it should be. Researchers believe that the high stress of today’s lifestyles is likely the major factor causing premature aging and chronic health problems. Three dietary supplements that seem to help offset some of these negative consequences are Cordyceps, Ginseng, and Rhodiola.

**Cordyceps** - Cordyceps has been used in Traditional Chinese Medicine (TCM) to treat fatigue and other ailments for over 1500 years. Modern researchers have found that Cordyceps seems to help improve respiratory and heart functions, reduce kidney and liver conditions, support the immune systems, increase energy levels, and enhance sexual function. Cordyceps may have a positive effect on memory, appetite, and sleep patterns. From a nutritional viewpoint, Cordyceps is a well-balanced nutritious whole food.

**Cordyceps Plus includes these additional ingredients:**

**Ginseng** – Of all the ancient remedies, ginseng is perhaps the most widely used. It has been used in Traditional Chinese Medicine for thousands of years as an herb to treat and prevent a wide variety of human ailments.

Ginseng has the unique ability to be bi-directional. It can either simulate or relax depending on what the body needs. It helps bring the body into balance.

**Rhodiola** – Rhodiola crenulata, also known Crenulin, Arctic root, or Golden root, has been used for centuries in Asia, Eastern Europe, and Scandinavia. The root of the plant was used in traditional folk medicine as a remedy to improve endurance and productivity, prolong life span, lessen high altitude sickness, improve gastrointestinal ailments, lessen fatigue and depression, and support the nervous system.

Recent research on Rhodiola has documented several important health benefits for the human body. These possible benefits include enhanced use of oxygen, strengthening of the heart due to improved oxygen use, enhanced absorption of nutrients, reduction of stress, and positive antioxidant effects. Rhodiola is commonly referred to as an adaptogen due to its ability to help the human body adapt to physical and mental stress and still maintain general vitality. In Russia and China, Rhodiola has been used to improve physical strength and mental clarity by athletes, astronauts, and others in oxygen critical environments.

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What is the difference between Cordyceps and Cordyceps Plus?

Cordyceps contains 500 mg of cordyceps. In Cordyceps Plus there are 200 mg of cordyceps, but there are also 200 mg of Panax Ginseng and 100 mg of Rhodiola -- two other powerful Chinese anti-aging herbs.
In this booklet from Woodland Publishing, author Kate Gilbert Udall discusses how Cordyceps Sinensis can give you more energy, more endurance and better health. This booklet will help you understand the amazing properties of this medicinal fungus. It details the traditional uses of this herb in Chinese medicine and examines the latest medical research about Cordyceps. Written by a credible third party source, this booklet is one of the best sources of information on Cordyceps available today.

**Retail Price** $4.95  **Your Price $4.00**

**LACTOBACILLUS SALIVARIUS** – is a strain of bacteria that flourishes in the small intestine and offers many benefits. It produces a natural antibiotic called acidophilin, which helps protect you against several harmful strains of bacteria you may encounter. It makes the bowels more acidic by producing lactic acid (it even forms hydrogen peroxide), which in turn destroys certain types of disease causing bacteria in the bowel.

Intestinal gas is one of the prime symptoms indicating the need to re-establish a good growth of friendly bacteria in the bowel. If you suffer from this problem L. Salivarius can help you, but you need to be aware of one important point. The optimum pH range for gas-producing organisms in the bowel is from 7.2 to 7.3 (slightly alkaline). If you start taking L. Salivarius and it begins to lower a pH that is higher than 7.3, your bowels will gradually pass through the gas producing range. In other words, your gas problem may actually get worse before it gets better. Don’t give up, however, because as the pH reaches the ideal range of 6.7 to 6.9, you’ll see a multitude of benefits occurring.

Modern medicine can poison your body even when it is trying to heal it. Antibiotics, for example, exert a powerful negative influence on intestinal bacteria regardless of whether they are the “disease producing” kind, or the healthy, “friendly” bacteria, essential for good health.

These much-needed “good” bacteria are of vital importance to your overall health. These bacteria are important for the proper functioning of the metabolism and also in enabling the defense mechanism of the immune system.

Healthy intestinal bacteria are able to produce the B-complex vitamins in quantities and supply them to the organism in the proper amounts. This means that the B vitamins do not necessarily have to be consumed in large amounts with our food.

The processing and absorption of vitamins – vitamin synthesis – is the responsibility of intestinal bacteria, and takes place in the colon, so having poor intestinal flora can cause vitamin deficiencies.

Vitamin K-1 is produced by the “friendly” bacteria. This vitamin is essential for a healthy liver. If, for any reason, vitamin K synthesis is disturbed, this may hinder blood coagulation.

The overwhelming majority of all immune organisms (between 70 to 80 percent) are located in the intestinal wall. To be most effective, the friendly bacteria have to be abundant.

Intestinal bacteria live in immune-biologically balanced symbiosis; there is an immune-biological interaction between the organism and the intestinal bacteria. An imbalance of the bacterial life in the intestines can contribute to various diseases.

Therefore, a proper balance of friendly bacteria is essential for good health and a good digestive system. Otherwise, any imbalance may make the body susceptible to such ailments as arthritis, arteriosclerosis, rheumatic diseases, digestive problems, skin problems such as acne, eczema and rashes, problems with the liver and gallbladder, failing memory, hypertension and fatigue, eye problems, migraine headaches, and gout, to name just a few.

Keep in mind that the L. Salivarius are living organisms, and as a result, they are highly susceptible to dying off and losing their effectiveness. They should be taken on an empty stomach 20 to 40 minutes before meals when your digestive acids and juices are not being produced in large quantities.

Currently, almost everyone thinks the only reason they would ever have to take lactobacillus would be if they had some type of bowel problem. Unfortunately, even the best health practitioners fall victim to this type of thinking. The friendly bacteria in your bowels have far-reaching effects you’ve probably never dreamed of. These hard working organisms produce a variety of substances that can: prevent cancerous tumors; inactivate viruses; produce natural antibodies and vitamins; reduce cholesterol and new research has linked these bacteria with even more wonders.

**Customer Reviews**

**Cordyceps**

“I cannot say enough about this product. **Cordyceps** has given me the strength to move and endure. I signed a disclosure to use it during the time that I received radiation treatment for salivary lymphoma in 2002, and it was the best decision I made. Thank you R-Garden for this very effective supplement that has literally changed my life for better health, energy, and the ability to play with my 2 grandchildren.”

**GM, Springfield, Virginia.**

“**Cordyceps** helps with my breathing and overall feel better to continue my day. I have thyroid troubles and the Cordyceps just makes me feel good and keeps me energized. Clears my head, helps me think and work better.”

**SF, Mt. Pleasant, IA**
### September 2015 Savings!

**Cordyceps**
- **180 caps.**
  - Regular Price $32.00
  - Sale Price $16.00

**500 mg Cordyceps Sinensis per capsule**
Cordyceps seems to help improve respiratory and heart functions, reduce kidney and liver conditions, support the immune system, increase energy levels, and enhance sexual function. Also, Cordyceps may have a positive effect on memory, appetite, and sleep patterns.

### Inner Garden Flora
- **100 caps.** Regular Price $21.00  
  - Sale Price $10.50
- **250 caps.** Regular Price $48.00  
  - Sale Price $24.00

*Inner Garden Flora* is one of our most popular products. Containing 11 different types of friendly bacteria, it is great for building and maintaining a healthy intestinal tract. Contains 5 billion live organisms per capsule.

### EpiCor Formula
- **60 caps.**
  - Regular Price $34.00
  - Sale Price $17.00

EpiCor is comprised of antioxidants, protein, fiber, polyphenols, vitamins, amino acids, beta glucans and other metabolites that work together to help strengthen your immune system. Our *Epicor Formula* also contains Elderberry Extract, Naringin Extract from Grapefruit, and Astragalus Extract as well as an enzyme activation system.

### Advanced Joint Formula
- **120 caps.**
  - Regular Price $16.00
  - Sale Price $8.00

*Advanced Joint Formula* is a breakthrough all-natural product designed to increase flexibility, strengthen joints, and decrease inflammation. Ingredients are: Chondroitin Sulfate, Glucosamine Sulfate, Creatine Monohydrate, Glucosamine HCL, Calcium (as Calcium Citrate), Magnesium (as Magnesium Citrate), Lipase and Amylase.

### Respiratory Lung System
- **180 caps.**
  - Regular Price $27.00
  - Sale Price $13.50

An herbal formula designed to help feed, nourish and cleanse the respiratory lung system. Contains: Anise Seed, Beet Root, Carqueja Leaf, Carrot Root, Dandelion Root, Fang Feng Root, Jiaogulan Herb, Lemon Grass, Malva Leaf, Millet Grain, Mullein Leaf, Noni Fruit, Plantain Leaf, Rice Grain, and Slippery Elm in a specialized Calcium Carbonate and Redmond Clay Base.

### Thyroid System
- **180 caps.**
  - Regular Price $27.00
  - Sale Price $13.50

An herbal formula designed to help feed, nourish and cleanse the thyroid system. Contains: Beet Root, Blessed Thistle Herb, Catuaba Bark, Hibiscus Flower, Lemon Grass, Olive Leaf, Parsley Leaf, Rhodiola Root, Rice Grain, Tapioca Root in a specialized Calcium Carbonate and Redmond Clay Base.

### Memory Formula
- **120 caps.**
  - Regular Price $24.00
  - Sale Price $12.00

*Memory Formula*’s combination of ingredients creates a powerful memory-boosting supplement to help you protect and improve your memory. *Memory Formula* is designed to keep memory related pathways to your brain functioning properly so you can stay mentally sharp.

### Milk Thistle Formula
- **180 caps.**
  - Regular Price $22.00
  - Sale Price $11.00

*Milk Thistle Formula* -- can be useful for cleansing and giving support to the liver. Contains Dandelion Root, Greater Celandine, Lecithin plus enzymes to enhance and activate the action of the other ingredients.

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