

Liposome



Encapsulated drug



GARLINOVAS



Encapsulation Technology

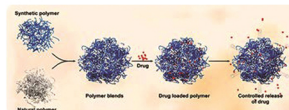
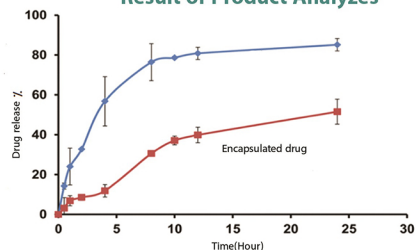
Benefits

- Disconnected from the outside environment to avoid being spoiled by environmental factors such as light and heat.
- Increased effectiveness and performance due to release control
- Reduced dosage due to optimal use of medicine molecules in the body
- Reduced side effects due to preventing damage to healthy cells

Encapsulation Technology

Definition: Nano/ micro encapsulation is a technique in which an active substance in nano/micro dimensions is placed inside a polymer shell and it is disconnected from the space outside the shell. This technique is used in various fields such as cosmetics, paints, resins and pharmaceutical materials. It can be firmly claimed that the most frequent use of this technique is in medicine, especially in pharmacy. For example, we all know that existing anti-cancer drugs have low efficacy and many side effects such as nausea, hair loss, lethargy, and weakened immune system. These side effects are caused by damage from medicine molecules to healthy body cells. Using encapsulation technology, the effective substances in the treatment can be encapsulated separately and the mechanism of medicine release in the body can be practically controlled. These medicines, which are manufactured through encapsulation technology, are called smart medicines with controlled release.

Result of Product Analyzes



References:

1. Effect of garlic on cardiovascular disorders: a review, Nutrition Journal 2002, 1:4.
2. Review Article Role of Garlic Usage in Cardiovascular Disease Prevention: An Evidence-Based Approach, Volume 2013, Article ID 125649, 9 pages.
3. Review Article Immunomodulation and Anti-inflammatory Effects of Garlic Compounds, Journal of Immunology Research Volume 2015, Article ID 401630, 13 pages.
4. Włosińska M, Nilsson AC, Hlebowitś J, et al. The effect of aged garlic extract on the atherosclerotic process - a randomized double-blind placebo-controlled trial. BMC Complement Med Ther. 2020;20(1):132v.
5. Ahmadi N, Nabavi V, Hajzadeghi F, et al. Aged garlic extract with supplement is associated with increase in brown adipose, decrease in white adipose tissue and predict lack of progression in coronary atherosclerosis. Int J Cardiol 2013;168(3):2310-4.

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Effect of garlic on cardiovascular disorders:

Atherosclerosis is a complex disease, characterized by an excessive inflammatory, fibro-fatty, proliferative response to damage of the artery wall involving several cell types, particularly smooth muscle cells, monocyte-derived macrophages, T-lymphocyte and platelets. Hyperlipidemia constitutes a major etiopathological factor for atherosclerosis. The medicinal value of garlic is best known for its lipid lowering and antiatherogenic effects.



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Garlic & Immune system

Immunomodulation is one of the main targets for synthetic drugs and chemicals. However, its high cost, anticipated toxicity, and adverse event effects render it undesirable for the patients.

Herbal medicines with immunomodulatory activity alter the immune function through the dynamic regulation of molecules such as cytokines and chemokines. The functioning of the immune system by stimulating certain cell types, such as macrophages, lymphocytes, natural killer (NK) cells, and eosinophils, by mechanisms including modulation of cytokine secretion, immunoglobulin production, phagocytosis, and macrophage activation.

Different studies have shown that garlic compounds are able to perform antiapoptotic anticancerogenic, and immunomodulatory effects.

One of the main mechanisms observed is through modulation of cytokine profiles and, on the other hand, direct stimulation of immune cells.

Vitamin B6

Vitamin B6 helps maintain a normal amount of this amino acid in your blood. A stronger immune system. Vitamin B6 helps chemical reactions in the immune system, helping it work better. Eating foods rich in vitamin B6 will help your body guard against infection.

Vitamin B12

Vitamin B12 is a nutrient that helps keep the body's blood and nerve cells healthy and helps make DNA, the genetic material in all of your cells. Vitamin B12 also helps prevent megaloblastic anemia, a blood condition that makes people tired and weak.

Vitamin B9

Vitamin B9 (Folic acid), It aids in the production of DNA and RNA, the body's genetic material, and is especially important when cells and tissues are growing rapidly, such as in infancy, adolescence, and pregnancy.

Folic acid also works closely with vitamin B12 to help make red blood cells and help iron work properly in the body.

Scientific information from Natural medicines about Garlic

Effectiveness:

POSSIBLY EFFECTIVE

Atherosclerosis. When used alone or in combination with other ingredients, oral garlic seems to slow the progression of atherosclerosis.

Details: Taking low doses of garlic powder (Kwai, Lichtwer Pharma) 300 mg, administered as a single dose or three times daily for up to 4 years, seems to lessen age-related decreases in aortic elasticity. Additionally, taking a specific time-released garlic powder supplement (Allicor, INAT-Farma) 150 mg twice daily for 24 months seems to reduce the rate of atherosclerosis progression, as measured by carotid intima-media thickness, when compared with placebo in males with early evidence of carotid atherosclerosis. Higher doses of 900 mg daily seem to slow development of atherosclerosis in both aortic and femoral arteries when used over a four-year period in females, but not in males. In patients with evidence of coronary artery calcium and a Framingham risk score of greater than 10%, taking aged garlic extract (Kyolic Reserve, Wakunaga) 1200 mg twice daily for 12 months reduces coronary artery calcium progression by 29% when compared with placebo.

Some clinical research has investigated the use of garlic in combination with other ingredients. Taking a specific supplement (Kyolic, Total Heart Health, Formula 108, Wakunaga) containing aged garlic extract 250 mg plus vitamin B12 100 mcg, folic acid 300 mcg, vitamin B6 12.5 mg, and L-arginine 100 mg daily for 12 months significantly reduces coronary artery calcium progression and improves vascular function in patients with a Framingham risk score of 10% to 20% without coronary artery disease. In addition, taking a combination product containing aged garlic extract 1200 mg and coenzyme Q10 120 mg daily for one year significantly improves vascular elasticity endothelial function in firefighters facing high degrees of occupational stress.

Garlic and its preparations have been widely recognized as agents for prevention and treatment of cardiovascular and other metabolic diseases, atherosclerosis, hyperlipidemia, thrombosis, hypertension and diabetes.

General efficient:

- Reduction of risk factors for cardiovascular diseases
- stimulation of immune function
- Enhanced detoxification of foreign compound
- Hepatoprotection
- Antimicrobial effect
- Antioxidant effect

Alliin is thought to be the principal bioactive compound present in aqueous garlic extract or raw garlic homogenate.

Other important sulfur containing compounds presents in garlic homogenate are allyl methyl thiosulfonate, 1-propenyl allyl thiosulfonate and γ -L-glutamyl-S-alkyl-L-cysteine.

Clinical reports have revealed the potential benefits of garlic as a modulator of multiple cardiovascular features through lowering low-density lipoproteins (LDL) and blood, reducing platelet aggregation and adhesion, preventing LDL oxidation, and reducing the progression of atherosclerosis.

Alliin was identified initially as the active compound responsible for antiatherosclerotic effect.

In some studies, garlic depressed the hepatic activities of lipogenic and cholesterologenic enzymes such as malic enzyme, fatty acid synthase, glucose-6 phosphate dehydrogenase and 3-hydroxy-3-methyl-glutaryl-CoA (HMG CoA) reductase.

These data indicate that suppressed LDL oxidation may be one of the powerful mechanisms accounted for the benefits of garlic in atherosclerosis.

