

2. PANAX GINSENG

(20S)-ginsenoside Rg3 is a ginsenoside found in *Panax ginseng* and *Panax japonicus* var. major that is dammarane which is substituted by hydroxy groups at the 3 β , 12 β and 20 pro-S positions, in which the hydroxy group at position 3 has been converted to the corresponding beta-D-glucopyranosyl-beta-D-glucopyranoside, and in which a double bond has been introduced at the 24-25 position. It has a role as an apoptosis inducer, an antineoplastic agent, a plant metabolite and an angiogenesis modulating agent. It is a ginsenoside, a tetracyclic triterpenoid and a glycoside. It derives from a (20S)-protopanaxadiol. It derives from a hydride of a dammarane.*⁵

*⁵: <https://pubchem.ncbi.nlm.nih.gov/compound/Ginsenoside-Rg3>



STEREOSPECIFIC EFFECTS OF GINSENOSE 20-RG3 INHIBITS TGF- β 1-INDUCED EPITHELIAL-MESENCHYMAL TRANSITION AND SUPPRESSES LUNG CANCER MIGRATION, INVASION AND ANOIKIS RESISTANCE.

The epithelial-mesenchymal transition (EMT) is a pivotal cellular process during which epithelial polarized cells become motile mesenchymal-appearing cells, which, in turn, promotes the metastatic potential of cancer. Ginseng is a perennial plant belonging to the genus *Panax* that exhibits a wide range of pharmacological and physiological activities. Ginsenosides 20-Rg3, which is the active component of ginseng, has various medical effects, such as anti-tumorigenic, anti-angiogenesis, and anti-fatiguing activities. In addition, ginsenosides 20(S)-Rg3 and 20(R)-Rg3 are epimers, and this epimerization is produced by steaming. However, the possible role of 20(S)-Rg3 and 20(R)-Rg3 in the EMT is unclear. We investigated the effect of 20(S)-Rg3 and 20(R)-Rg3 on the EMT. Transforming growth factor-beta 1 (TGF- β 1) induces the EMT to promote lung adenocarcinoma migration, invasion, and anoikis resistance. To understand the repressive role of 20(S)-Rg3 and 20(R)-Rg3 in lung cancer migration, invasion, and anoikis resistance, we investigated the potential use of 20(S)-Rg3 and 20(R)-Rg3 as inhibitors of TGF- β 1-induced EMT development in A549 lung cancer cells in vitro. Here, we show that 20(R)-Rg3, but not 20(S)-Rg3, markedly increased expression of the epithelial marker E-cadherin and repressed Snail upregulation and expression of the mesenchymal marker vimentin during initiation of the TGF- β 1-induced EMT. 20(R)-Rg3 also inhibited the TGF- β 1-induced increase in cell migration, invasion, and anoikis resistance of A549 lung cancer cells. Additionally, 20(R)-Rg3 markedly inhibited TGF- β 1-regulated matrix metalloproteinase-2 and activation of Smad2 and p38 mitogen activated protein kinase. Taken together, our findings provide new evidence that 20(R)-Rg3 suppresses lung cancer migration, invasion, and anoikis resistance in vitro by inhibiting the TGF- β 1-induced EMT.*⁶

*⁶: <https://www.ncbi.nlm.nih.gov/pubmed/24793912>

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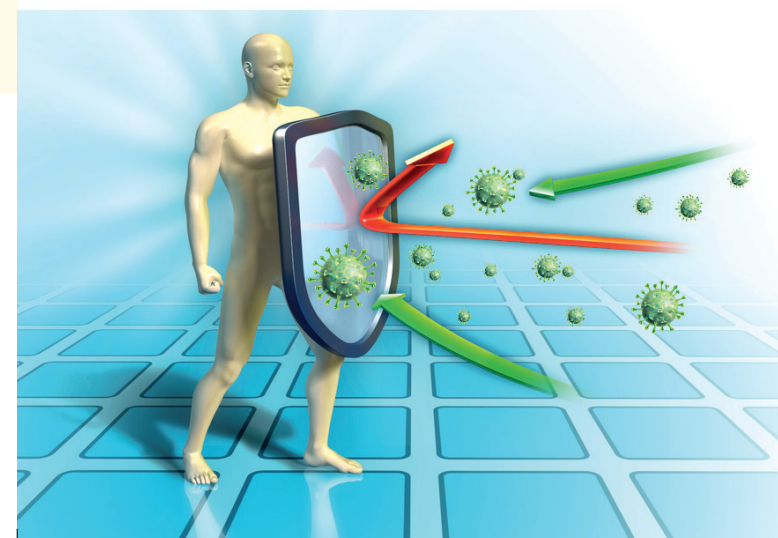


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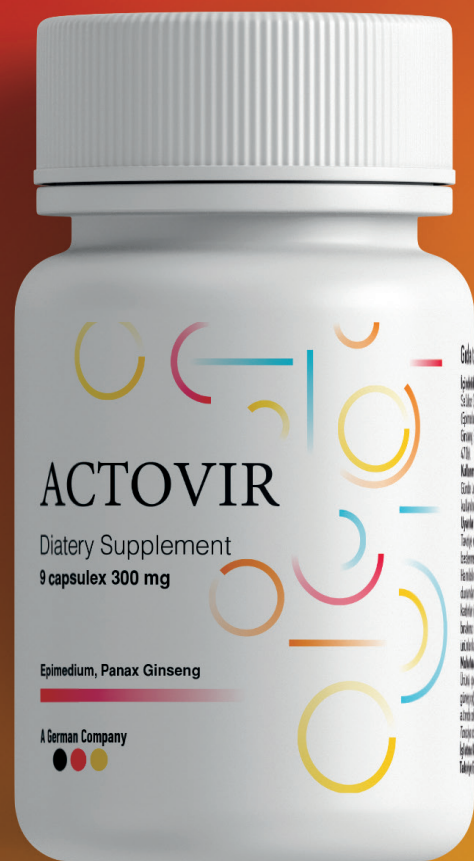
Epimedium, Panax Ginseng



(01.04.2020) REV_00_EN

you should use

your own DESTRUCTIVE POWER...



3 Capsule (900 mg) / Day

Horny Goat Weed Extract (Epimedium) :	600 mg
Ginseng Extract (Panax Ginseng) :	300 mg

3 Capsule (K cal) / Day

Horny Goat Weed Extract (Epimedium) :	1 K cal
Ginseng Extract (Panax Ginseng) :	1 K cal

Usage Information:

Three times a day; 1 capsule is taken with 1 glass of water. It is recommended to use for 3 days.

1. USAGE AREAS OF ICARITIN

1. A metabolite of Icaria. Icaritin and Desmethylicaritin, two metabolites of Icaria, dramatically inhibit the growth of most malignant cells. They also have significant antiangiogenesis properties, inhibiting or eliminating entirely the development of new malignant cells.*¹

*¹: https://www.chemicalbook.com/ChemicalProductProperty_EN_CB2982508.htm.

Cardiovascular function improvement, hormone regulation and antitumor activity.*²

2. The anti-MM activity of Icaritin was mainly mediated by inhibiting IL-6/JAK2/STAT3 signaling.

3. The inhibitory activity of Icariside II on pre-osteoclast RAW264.7 growth was synergized by Icaritin, which maybe contribute to the efficiency of Herba Epimedii extract on curing bone-related diseases, such as osteoporosis.

4. The Icaritin at low concentration (4 or 8 $\mu\text{mol/L}$) can promote rat chondrocyte proliferation and inhibit cell apoptosis, while the effect of Icaritin on rat chondrocyte at high concentration was reversed.

5. Icaritin might be a new potent inhibitor by inducing S phase arrest and apoptosis in human lung carcinoma A549 cells.

6. Icaritin dose-dependently inhibits ENKL cell proliferation and induces apoptosis and cell cycle arrest at G2/M phase. Additionally, Icaritin upregulates Bax, downregulates Bcl-2 and pBad, and activates caspase-3 and caspase-9.

WHAT IS EPIMEDIUM ?

Herba epimedii (Epimedium, also called bishop's hat, horny goat weed or yin yang huo), a traditional Chinese medicine, has been widely used as a kidney tonic and antirheumatic medicine for thousands of years. It is a genus of about 60 flowering herbs, cultivated as a ground cover plant and an aphrodisiac. The bioactive components in herba epimedii are mainly prenylated flavonol glycosides, end-products of the flavonoid pathway. Epimedium species are also used as garden plants due to the colorful flowers and leaves. Most of them bloom in the early spring, and the leaves of some species change colors in the fall, while other species retain their leaves year round.



EPIMEDIUM EXTRACT

Epimedium extract is a herbal supplement claimed to be beneficial for the treatment of sexual problems such as impotence. It is believed to contain a number of active components, including plant compounds that may have antioxidant activity and estrogen-like compounds. The major components of Epimedium brevicornum are icariin, epimedium B and epimedium C. It is reported to have anti-inflammatory, anti-proliferative, and anti-tumor effects. It is also reported to have potential effects on the management of erectile dysfunction.

*² <https://newdrugapprovals.org/tag/icaritin/>

Beijing Shenogen Granted Fast Track Status for Novel Cancer Drug publication date: Sep 17, 2015 *³

Beijing Shenogen Biomedical announced that Icaritin, a China Class I cancer drug, was granted Fast Track Review status after the company filed its New Drug Approval submission to the Beijing Food & Drug Administration. Icaritin is an oral traditional Chinese medicine, derived from barrenwort, which targets the estrogen receptor $\alpha 36$. Shenogen has conducted clinical trials of Icaritin in patients with liver cancer, though it expects the drug will also prove effective in breast cancer and other estrogen-related cancers as well.

*³ <http://www.chinabiotoday.com/articles/20150917>

Icaria is pharmacologically bioactive and demonstrates extensive therapeutic capacities such as osteoprotective effect, neuroprotective effect, cardiovascular protective effect, anti-cancer effect, anti-inflammation effect, immunoprotective effect and reproductive function.*⁴

*⁴ Li C, Li Q, Mei Q, Lu T. *Pharmacological effects and pharmacokinetic properties of icariin, the major bioactive component in Herba Epimedii. Life Sci. 2015;126:57-68. doi:10.1016/j.lfs.2015.01.006.*

Calling All Beauty Queens

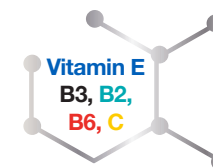
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Vitamin C (Ascorbic acid)

Vitamin C has antioxidant properties, potentially protecting cells from oxidative damage caused by free radicals. Vitamin C is also involved in the synthesis of collagen which is required for the normal structure and function of connective tissues such as skin, cartilage and bones. It is therefore an important nutrient for the healing process. It is also involved in the normal structure and function of blood vessels and neurological function. Vitamin C also increases the absorption of non-haem iron (iron from plant sources) in the gut.

Deficiency

Severe deficiency of vitamin C leads to scurvy. Deficiency is associated with fatigue, weakness, aching joints and muscles.

Vitamin B6 (Pyridoxin HCl)

Vitamin B6 comprises 3 forms (vitamers): pyridoxine, pyridoxal and pyridoxamine, and has a central role in the metabolism of amino acids. It is involved in breaking down glycogen and has a role in the modification of steroid hormone action. It is also essential for the formation of red blood cells and the metabolism and transport of iron. Together with folate and vitamin B12, vitamin B6 is required for maintenance of normal blood homocysteine levels. Raised homocysteine is a risk factor for cardiovascular disease.

Deficiency

Deficiency may only occur as a complication of disease or prolonged administration of certain drugs.

Vitamin E

Vitamin E is a group of eight lipid-soluble compounds synthesised by plants, tocopherols and tocotrienols. Alpha-tocopherol accounts for 90% of the vitamin E in human tissues. Vitamin E acts as an antioxidant and is required to protect cells against oxidative damage from free radicals, for example oxidation of the lipids in cell membranes. Vitamin E content in food is expressed in terms of mg equivalents based on the biological activities of the tocopherols present.

Deficiency

Existence of dietary vitamin E deficiency is not considered to be a problem even in people consuming a relatively poor diet. Deficiency only occurs in people with severe fat malabsorption and rare genetic disorders.

▶ Following internet address is used as a reference.
<https://www.nutrition.org.uk/nutritionscience/nutrients-food-and-ingredients/vitamins.html>

	Recommended Daily Usage			Period of Use
	For Man	For Woman	For women who have children	
20 - 30 years of age	Minimum 3000 mg	Minimum 3000 mg with Acto Gen Face Cream and Acto Gen Body Cream	Minimum 9000 mg with Acto Gen Face Cream and Acto Gen Body Cream	Twice a year, for 3 months
30 - 40 years of age	Minimum 9000 mg with Acto Gen Face Cream	Minimum 9000 mg with Acto Gen Face Cream and Acto Gen Body Cream	Minimum 9000 mg with Acto Gen Face Cream and Acto Gen Body Cream	Twice a year, for 3 months
40 - 60 years of age	Minimum 9000 mg with Acto Gen Face Cream and Acto Gen Body Cream	Minimum 9000 mg with Acto Gen Face Cream and Acto Gen Body Cream	Minimum 9000 mg with Acto Gen Face Cream and Acto Gen Body Cream	Twice a year, for 3 months
Over 60 years of age	Minimum 9000 mg with Acto Gen Face Cream and Acto Gen Body Cream	Minimum 9000 mg with Acto Gen Face Cream and Acto Gen Body Cream	Minimum 9000 mg with Acto Gen Face Cream and Acto Gen Body Cream	Three times a year, for 3 months



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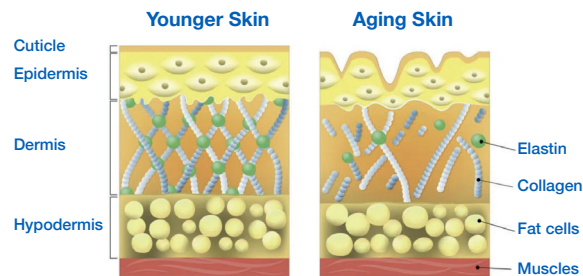


What is collagen, and why do people use it?

Collagen is the most abundant protein in the human body, found in the bones, muscles, skin, and tendons.

It is the substance that holds the body together. Collagen forms a scaffold to provide strength and structure.

- Endogenous collagen is natural collagen, synthesized by the body.
- Exogenous collagen is synthetic. It comes from an outside source, such as supplements.
- Endogenous collagen has a number of important functions.
- Breakdown and depletion is linked to a number of health problems.
- Exogenous collagen is used for medical and cosmetic purposes, including the repair of body tissues.



With age, collagen weakens, leading to wrinkles and cartilage problems.

Fast facts on collagen

Key points about collagen.

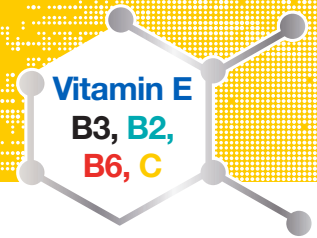
- Collagen occurs throughout the body, but especially in the skin, bones, and connective tissues.
- Some types of collagen fibrils, gram-for-gram, are stronger than steel.
- Collagen production declines with age and exposure to factors such as smoking and UV light.
- Collagen can be used in collagen dressings, to attract new skin cells to wound sites.

More detail is in the article.

▶ Following internet address is used as a reference.
<https://www.medicalnewstoday.com/articles/262881.php>



Vitamins



Vitamin B3 (Niacin)

Niacin is required for the release of energy from food (it is the precursor to the coenzymes NAD and NADP which are fundamental to key reactions in carbohydrate metabolism). As a result niacin requirement is related to the amount of energy consumed. Niacin is also required for the normal function of the skin and mucous membranes and for normal functioning of the nervous system.

Deficiency

Deficiency of niacin results in the disease pellagra. It is characterized by sun-sensitive skin producing effects similar to severe sunburn.

Riboflavin (vitamin B2)

Riboflavin functions as a coenzyme in a wide variety of reactions that take place in the body. Riboflavin is required to release energy from protein, carbohydrate and fat. It is also involved in the transport and metabolism of iron in the body and is needed for the normal structure and function of mucous membranes and the skin.

Deficiency

Deficiency is characterised by dryness and cracking of the skin around the mouth and nose and a painful tongue that is red and dry (magenta tongue).

	3 ampoules (appr. 16,5 g) / Day	RDA (%)**
Hydrolysed Collagen	9000	*
Vitamin C	120	150
Hyaluronic Acid	30	*
Vitamin E	14,4	120
Niacin	3,2	20
Vitamin B6	1,5	107
Riboflavin	1,5	107

* Daily value not established

**Reference quantities (average for the adult) by LMIV