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# MVG GOLD SYRUP & DROPS

Rt. Minerals Rr Vitamins Rr Ginseng & Ginkgo biloba

## DESCRIPTION:

MVG GOLD Tablet, Syrup & Drops contains a comprehensive formula of vitamins and minerals with added benefits of Ginseng, Ginkgo biloba, Foeniculum vulgare & Elettaria cardamomum specially designed to support health and well-being in adults, elderly, children and infants.

## INDICATIONS:

MVG GOLD Tablet, Syrup & Drops is indicated for the symptomatic treatment of:

- Dementia
- Lack of concentration
- Weakness
- Symptomatic treatment of mild to moderate depressive disorders
- ADHD
- Dyspeptic conditions

MVG GOLD Tablet, Syrup & Drops provides a wide range of vitamins, minerals and trace elements that are involved in many of the metabolic processes in the body and contribute to physical and mental wellness. The stress and strain of modern living make it difficult to follow a balanced diet with all the right vitamins and minerals. Certain lifestyle choices, stress, excessive exercise, alcohol consumption, smoking and even taking certain medication, all impact on our nutrient level. The body cannot produce most vitamins, minerals and trace elements, but is dependent on a regular supply in the diet. And adequate supply of these vital substances is an important condition for well-being and health. Daily supplementation with MVG GOLD Tablet, Syrup & Drops can support the following health benefits:

**Energy:** Includes B vitamins plus iron to help support daily energy needs.

**Immunity:** Contains antioxidants important to the normal function of the immune system.

**Healthy skin:** With vitamin A as Beta-carotene, vitamin C and Biotin for healthy skin.

**Environmental stress:** With vitamin C, E and selenium to help protect the body from the stress of pollution and sunlight.

## CONTRAINDICATIONS:

MVG GOLD Tablet, Syrup & Drops is contraindicated in cases of known allergy or hypersensitivity to the plant material.

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## CLINICAL PHARMACOLOGY:

MVG GOLD Tablet, Syrup & Drops contains a unique blend of ginseng & ginkgo biloba Extracts, Foeniculum vulgare along with vitamins such as vitamin A, C, D, E, B1, B2, B6, B12 & Niacin, pantothenic acid, minerals such as calcium, iron, iodine and magnesium, zinc, cobalt, copper, manganese, molybdenum & potassium. Ginseng facilitates the release of acetylcholine from hippocampus slices. The increase in acetylcholine release was associated with an increased uptake of choline into nerve endings; however, calcium influx was unaltered. Thus, the ability of ginsenoside Rb1 to prevent memory deficits may be related to facilitation of acetylcholine metabolism in the central nervous system (1). Ginsenoside Rb1 increases the expression of choline acetyltransferase and trk mRNAs in the basal forebrain and nerve growth factor mRNA in the hippocampus (2).

Vitamin A Maintenance of good vision and healthy skin, nails and hair. Vitamin D for the maintenance of healthy teeth and bones. Helps the body to utilize calcium. Vitamin E Functions as a tissue antioxidant, thereby keeping cells healthy. Vitamin C Plays a role in maintaining healthy gums, skin and connective tissue. Functions as a tissue antioxidant, thereby keeping cells healthy. Helps with the absorption of iron from food. Folic acid Plays a role in the metabolism of cell division and in the regeneration of blood and cells. Niacin Helps the body in protein metabolism and the conversion of fats and carbohydrate into energy. Pantothenic acid Plays a role in the metabolism of fatty acids, glucose and proteins for energy production. Helps maintain healthy skin and mucus membrane. Vitamin B1 Required for the release of energy from glucose, maintaining healthy nerve function. Vitamin B2 for the production of energy from protein, fat and carbohydrate, helping maintain healthy skin. Vitamin B6 for the production of energy from protein, fat and carbohydrate, that helps maintain healthy skin. Vitamin B12 Contributes to the health of the nervous system and is involved in the manufacturing of red blood cells. Iron Helps maintain healthy red blood cells, which plays a role in oxygen transportation. Magnesium Helps in the utilization of proteins, it helps and maintains healthy nervous system metabolism. Iodine Prevents from thyroid storm or hyperthyroid conditions, minimizing the risk of radiation induced thyroid cancer. Copper Antioxidant, prevents oxidative DNA damage in lymphocytes and protects against cardiovascular diseases. Manganese Prevents from structural physiological disorders, prevents from osteoporosis & osteoarthritis. Molybdenum Anticarcinogenic, involved in catabolism of purines & sulphar amino acids. Phosphorus makes up the structure of cellular membranes, mineralize the bones, increase exercise performance. Calcium Helps to keep bones and teeth healthy Cobalt Increases vitamin absorption, increase the effectiveness of glucose transport from blood into body. Zinc is fundamental for the growth of cells by helping in the healing of wounds. Required so that the immune system and antioxidant system work properly. Prevents from diarrhea & common cold. Potassium helps prevent muscle cramps and helps in better functioning of heart. Foeniculum vulgare produces antimicrobial antioxidant activities & helps in dyspeptic conditions. Elettaria cardamomum produces antispasmodic effect in intestine and prevents from dyspeptic, colic & cough. Cardamomum is used as appetizer for young growing children.



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## PHARMACOKINETICS:

MVG GOLD contains ginseng & ginkgo biloba in which Ginsenosides have been isolated from the roots of white and red ginseng. They can be categorized in three groups depending on their aglycones: protopanaxadiol-type ginsenosides, protopanaxatriol-type ginsenosides, and oleanolic acid-type saponins. In the past decades, various investigations dealing with the pharmacokinetics of these ginsenosides have been published. From these studies, it can be concluded that the decomposition modes are different for protopanaxadiol and protopanaxatriol saponins. Ginsenoside Rg (protopanaxatriol-type) showed an extremely short half-life of 27 min after intravenous administration into mini-pigs. In contrast, the protopanaxadiol-type ginsenoside Rb showed a half-life in the II-phase of 16 h. These results correlated with the pharmacokinetic results in rats and in rabbits. The high persistence of Rb in serum and tissues was attributed to a high degree of plasma protein binding. Rg was rapidly absorbed by mice after oral administration (~30% after 1 h). The concentration of Rg and metabolites was high in the blood, liver, bile, subcutis, conjunctiva, and epithelia of the oral cavity, esophagus, and nasal cavity; the concentration was low in muscle and endocrine organs and very low in the brain. Rg also was metabolized rapidly. Intact Rg was excreted in mouse urine and feces in very small amounts, but the metabolite concentration was high. Five metabolites could be detected; two of them were ginsenoside Rh and 25-OH-Rh. Intact cells were used to study the metabolism of ginsenoside Rh. The amount of Rg and Rb absorbed from the gastrointestinal tract of rat were 1.9% and 0.1%, respectively Rb was detected to be 3.7% using <sup>3</sup>H-labeled Rb2. Rg1 was excreted into the urine (0.4%) and bile (1.1%) in oral administration of a single dose (100mg•kg<sup>-1</sup>) in rats. By HPLC analysis, Rb1 and Rg1 in the same serum were determined after administering saponins of Panax notoginseng (PNS) to rats. The decline of Rb1 in serum could be described by a two-compartment model. The half-life of a phase was 23.40 min and that of 13 phase was 17.96 h. Rb1 was absorbed from the digestive tract and the bioavailability via P.O. was 4.35%. The pharmacokinetics of Rg1 in rats also could be described by a two-compartment model. The half-lives of Rg1 were 24.23 min for a phase and 14.13 h for R phase. The pharmacokinetics of R-Rg3 in healthy volunteers showed that after oral administration, the absorption of R-Rg3 was rapid in man, and its elimination was rapid after oral administration of R-Rg. An average half-life of 16 min in plasma was obtained after intravenous administration Rh2 to male Sprague-Dawley rats. Oxygenation and deglycosylation were found to be the major metabolic pathways of Rh2. Intense metabolism, rather than excretion, appears to be the reason for the fast clearance of this ginsenoside. The oral bioavailability of Rh2 in dog was relative high for male (17.6%) and female (24.8%) dogs, respectively. About 24.4%-26.2% and 54.3%-81.7% of C-K was recovered for i.v. and oral administration from the entire gastrointestinal tract, respectively.



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Following oral administration, dose-normalized AUC was increased at the 20 mg/kg dose, compared with those at lower doses. Subsequently, the absolute oral bioavailability was increased about 8–20 times. Additionally, another study after oral administration of Rb1 and C-K revealed that intact Rb1 was not detectable in serum for 24 h by HPLC analysis, whereas the level of C-K in the serum reached maximum at 8 h (about 8.5  $\mu\text{g}\cdot\text{mL}^{-1}$ ) after Rb1 administration, and at 2 h (about 10  $\text{pg}\cdot\text{mL}^{-1}$ ) after C-K administration, respectively. After the oral administration of ginseng total saponin (1  $\text{g}\cdot\text{kg}^{-1}\cdot\text{d}^{-1}$ ) to rats, C-K was detected about 0.9  $\mu\text{g}\cdot\text{mL}^{-1}$  in blood at 6 h and 5.1  $\mu\text{g}\cdot\text{mL}^{-1}$  at 24 h, 3.  $\mu\text{g}\cdot\text{mL}^{-1}$  in urine at 0–24 h and 3.7  $\mu\text{g}\cdot\text{mL}^{-1}$  at 24–48 h. Ppd was detected about 0.6  $\text{g}\cdot\text{mL}^{-1}$  in blood at 24 h, and not detected in urine. Ppt was detected about 0.4  $\text{pg}\cdot\text{mL}^{-1}$  in blood at 6 h and 0.7  $\text{pg}\cdot\text{mL}^{-1}$  at 24 h, and not detected in urine. Their intestinal absorption is time-dependently enhanced. After the oral administration of ginseng extract (150  $\text{mg}\cdot\text{kg}^{-1}\cdot\text{d}^{-1}$ ) in human, C-K was detected about 0.2  $\mu\text{g}\cdot\text{mL}^{-1}$  in urine at 16–24 h. The simultaneous monitoring of all compounds including naturally occurring ginsenosides and their degradation products is not practical due to the limitation of techniques and cost. However, the current studies about have offered a lot of information. Based on this, the diagnostic compounds may be identified in the near future, which can be used as markers of pharmacokinetics properties of ginseng or its products.

## DOSAGE AND ADMINISTRATION:

Or as directed by the Doctor.

**Tablets:** 1 or two tablets daily.

**Syrup:** As directed by the Doctor. Children (below 12 years) 1 teaspoonful twice daily, 12 years and above age group, 1–2 teaspoonful twice daily (preferably with meal)

**Drops:**

Infants: 7–12 months: 17 drops (approx. 0.5ml) once daily.

**Children:**

1–6 years: 35 drops (approx. 1ml) once daily.

6–12 years: 50 drops (approx. 1.5ml) once daily.

## OVERDOSE:

If you are taking other supplements, read the label, since these supplements may contain the same ingredients. Product contains iron, which can be harmful to children if taken in large doses. In case of accidental overdose, contact your doctor or poison control center immediately.

**Gastrointestinal disorders:** Diarrhea "Metabolism and nutrition disorders: Hyper-vitaminosis D

**Treatment:** In the alert patient, empty the stomach promptly by induced emesis followed by lavage. In the obtunded patient, secure the airway with a cuffed endotracheal tube before beginning lavage (do not induce emesis). Maintain adequate respiratory exchange, do not use respiratory stimulants.



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## WARNINGS:

While no drug interactions have been reported, an extract of the root (containing 10% ginsenosides) inhibited the activity of cytochrome P450 isozymes CYP1A1, CYP1A2 and CYP1B1 in vitro in human liver microsomes. Thus, there is a potential for interactions with other drugs that are metabolized by these enzymes. Ginseng and its preparations may lower blood sugar levels. Interactions with ant diabetic drugs are possible, but this subject has not been sufficiently investigated. MVG GOLD Tablet, Syrup & Drops is contraindicated in cases of known allergy or hypersensitivity to the plant material. \*Special Populations: Pregnancy and Breastfeeding as with any supplement, if you are pregnant or nursing a baby, contact your healthcare professional before taking MVG GOLD.

## SIDE EFFECTS:

MVG GOLD is associated with low toxicity. The following side effects may be associated with the use of MVG GOLD tablet, syrup & drops and are listed under their corresponding body system organ class:

Gastrointestinal disorders: Abdominal discomfort, constipation, diarrhea, nausea.

Immune system disorders: Hypersensitivity

## STORAGE:

Protect from light, excessive heat & moisture. Store in a cool & dry place below 30C. Keep out of reach of children.

## PRESENTATION:

MVG Gold tablets are available in a pack of 30's.

MVG Gold syrup is available in 120ml bottle.

MVG Gold drops are available in 15ml dropper.