

# Women's health uncoded

Daily wellbeing support

Practitioner Paper • For practitioner use only

# 89% of women

don't meet their daily requirement for essential vitamins and minerals, leading to fatigue, weakened immunity, and poor overall health.<sup>1</sup>

# 50% of women

will suffer from a urinary tract infection (UTI) at some point in their life.<sup>3</sup>

# 70% of the immune system

resides in the gut, and poor gut health affects digestion and immunity.



# Up to 80% of women

of reproductive-age experience at least one physical, emotional, or anxiety symptom per month.<sup>2</sup>

# By age 25

collagen production begins to decline at a rate of around 1% per year, which affects skin elasticity, joint health, and hair strength.

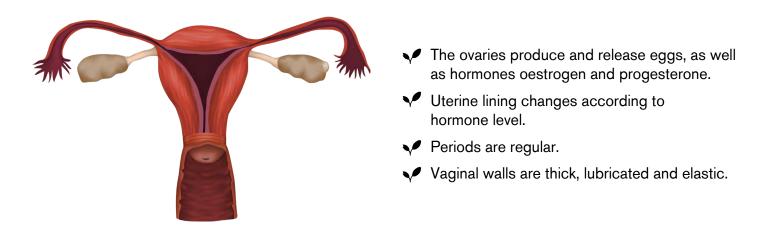
# Up to 45% of women

could be deficient in magnesium, contributing to low energy levels, poor sleep quality, and muscle cramps.<sup>4</sup>



#### YOUNGER VS OLDER WOMEN

#### Younger women



#### **Older women**



- The ovaries stop making the hormone oestrogen and progesterone.
- ✓ Ovulation does not occur.
- ✓ Uterine lining stays thin.
- Periods do not occur.
- Vaginal walls become thinner, drier and less elastic.

# LIFE STAGES AND CHANGING NEEDS

	Younger Women	Middle Age Women	Postmenopause
Nutrient Deficiencies	Risk of nutrient gaps due to diet or lifestyle.	Increasing risk of deficiencies.	Higher risk of nutrient deficiencies due to declining digestion.
Energy and Vitality	High energy demands due to active lifestyle, stress, and fertility needs.	Energy decline due to hormonal changes and increased stress.	Energy management and mood stabilisation as the body adapts to post-menopausal changes.
Cognitive Support	Focus on concentration, memory, and cognitive performance.	Cognitive fluctuations (e.g. brain fog).	Support for long-term brain health and prevention of cognitive decline.
Skin, Hair and Nails	Support for collagen production to maintain youthful skin and healthy hair.	Declining collagen production; increased need for skin and joint support.	Thinning skin and hair need more nutrients supporting elasticity and hydration.
Urinary Health	Occasional support is needed, particularly during stressful periods.	Increased risk of urinary issues (e.g. UTIs) due to hormonal shifts.	Continued need for urinary tract health maintenance.
Stress and Mood	Balancing stress and supporting mood due to busy lifestyles and hormonal shifts.	Higher stress levels, mood swings, and anxiety during midlife transitions.	Focus on mood stabilisation and stress resilience post menopause.
Gut Health	Probiotics for digestive health and immunity support.	Gut microbiome may fluctuate due to hormonal changes; probiotics aid in balance.	Probiotic support is vital for maintaining digestive and immune health as ageing progresses.
Bone Health	Early support is needed to build and maintain bone mass.	Greater support is needed to maintain bone density.	High risk of osteoporosis, requiring ongoing support for bone strength with key nutrients.

### DIETARY AND LIFESTYLE ADVICE

These are general tips for encouraging healthy habits in women

#### Support hormonal balance with healthy fats

Emphasise the importance of including healthy fats, such as avocados, nuts, seeds and olive oil in their diet. These fats are essential for hormone production and can help manage hormonal fluctuations during various life stages. They also support cardiovascular health, which is needed as women age.

#### Focus on gut health

Highlight the role of probiotics in supporting gut health and immune function. Encourage the consumption of probiotic-rich foods like yoghurt, kefir, and fermented vegetables, in addition to the probiotics in the multi-nutrient formula. A healthy gut microbiome can improve digestion and nutrient absorption, benefiting overall health.

#### Encourage regular physical activity

Recommend a balanced exercise routine that includes cardiovascular, strength training and flexibility exercises. Regular physical activity is vital for maintaining muscle mass, bone density and heart health. It can also help regulate mood and alleviate anxiety, which are important aspects of women's health.





### Mind the impact of stress

Discuss the effects of stress on overall health and hormone balance. Encourage clients to practice stress-reduction techniques such as mindfulness, yoga or deep-breathing exercises. Managing stress can enhance the effectiveness of the multi-nutrient formula by optimising hormonal balance and supporting emotional wellbeing.

#### Encourage community support

Encourage women to engage in community activities or support groups. Social connections can significantly impact mental health and emotional wellbeing. Sharing experiences and knowledge with others can provide motivation and encouragement to maintain a healthy lifestyle.

### Women's ProMulti

Women's ProMulti is a comprehensive, full-spectrum formula for the changing health needs of women as they age. Containing 28 different nutrients, it has everything needed for women with busy lifestyles, including probiotics, botanicals and vitamins. It can support mental resilience, clarity, hormone cycles, energy, the immune system, vaginal health, gut health, skin, hair and nails, bones and more.

> Women's ProMulti Advanced Formula

for Women's Health Probiotics, Botanicals, Vitamins & Minerals

60 Capsules | 2 a day

BETTER ME. BETTER PLANET.

	CAPSULES	NRV % *
Vitamin A	600 µg	75
Vitamin B1	20 mg	1818
Vitamin B2	20 mg	1428
Vitamin B3	32 mg	200
Vitamin B5	20 mg	333
Vitamin B6	10 mg	714
Vitamin B12	200 µg	8000
Vitamin C	80 mg	100
Vitamin D3	25 µg	500
Vitamin E	12 mg	100
Vitamin K2	90 µg	120
Biotin	500 µg	1000
Boron	3 mg	**
Selenium	100 µg	181
Calcium	120 mg	15
Chromium	200 µg	500
Folate	400 µg	200
Magnesium	57 mg	15
lodine	150 µg	100
Zinc	15 mg	150
Lactobacillus crispatus	2.5 billion CFU	**
Lactobacillus reuteri	2.5 billion CFU	**
Ashwagandha	250 mg	**
Cranberry	1000 mg	**
Ginkgo Biloba	3000 mg	**
L-Lysine	50 mg	**
L-Proline	50 mg	**

PER 2

EC

\* NRV= Nutrient Reference Value

\*\* No NRV Established

# Directions

- Take two capsules daily, together or separately, at least 20 minutes before or after hot food or drink.
- If taken with antibiotics, take Women's ProMulti capsules at least 2 hours before or after antibiotics.
- This product contains Vitamin A. Do not take it if pregnant, breastfeeding, or likely to become pregnant except on the advice of a doctor.
- This formula contains Vitamin B3 in the form of Niacinamide riboside. Although it does not contain the Nicotinic acid form of Vitamin B3, known to possibly cause skin flushes in sensitive individuals, please do get in touch with our team if you have any concerns at all.

#### Ingredients

Calcium (Tri-Calcium Citrate), Magnesium Bisglycinate,
Vitamin C (Calcium L-ascorbate), Zinc Bisglycinate, L-Lysine
Hydrochloride, Ginkgo Biloba Extract, L-Glycine, L-Proline,
Vitamin B3 (Nicotinamide), Cranberry Extract (*Vaccinium macrocarpon*), Vitamin B2 (Riboflavin 5'-phosphate, sodium),
Vitamin B1 (Thiamin Mononitrate), Vitamin B5 (Pantothenic Acid,
Calcium salt), *Lactobacillus crispatus*, *Lactobacillus reuteri*,
Ashwagandha Extract (*Withania somnifera*), Vitamin E (D-Alpha
Tocopherol Acid Succinate), Vitamin D3 (Cholecalciferol), Vitamin B6 (Pyridoxal-5-Phosphate), Vitamin B12 (Methylcobalamin,
5'-deoxyadenosylcobalamin), Vitamin K2 (Menaquinone-7),
Vitamin A (Retinyl palmitate), Boron (Sodium Tetraborate),
Chromium Picolinate, Folate (Calcium-L-Methylfolate), D-Biotin,
Selenium (L-Selenomethionine), Potassium Iodide, Capsule Shell (Hydroxypropyl Methylcellulose).

### Free from

Added Sugar, Starch, Sweeteners, Gluten, Wheat, Soya, Lactose, Dairy, Artificial Flavours, Colours and Preservatives.

# What customers can look forward to

#### 1-2 weeks

A reduction in tiredness and fatigue, and recovery from exercise is improved.

# 3-4 weeks

A more positive outlook and improved digestion.

# 4-6 weeks

Normal hormone regulation and improved mental performance, and clients should find it easier to fall asleep.

### **Pairs well with**



Vegan Omega 3

pH Hero®

**DR.VEGAN** 





Gut Works<sup>®</sup>

# **KEY INGREDIENTS IN WOMEN'S PROMULTI**

# Vitamins A, D, E and K

Fat-soluble vitamins, specifically Vitamins A, D, E, and K, play an essential role in maintaining various physiological functions and overall health in women. Unlike water-soluble vitamins, these vitamins are absorbed along with dietary fats and can be stored in the body's fatty tissues and liver, allowing for a sustained supply. Each vitamin serves unique functions.



#### Vitamin A

Vitamin A has two primary forms: retinol (preformed Vitamin A) and provitamin A carotenoids (e.g. beta-carotene). Individuals with a 2 beta-carotene 15,15'-monooxygenase (BCMO1) genetic mutation (up to 45% of the population) struggle to convert beta-carotene into Vitamin A<sup>5</sup> and should, therefore, take a Vitamin A food supplement and not rely on beta-carotene alone. Retinol is essential for the synthesis of rhodopsin, a light-sensitive pigment in the retina that enables vision in low-light conditions. When light hits rhodopsin, it triggers a biochemical cascade that results in visual signal transduction. Retinoic acid, the active metabolite of retinol, binds to nuclear retinoic acid receptors (RARs) and retinoid X receptors (RXRs). This binding regulates gene transcription involved in cellular growth, differentiation, and apoptosis, affecting processes such as embryonic development and immune response. Vitamin A enhances the production and activity of white blood cells, particularly lymphocytes, essential for immune defence.<sup>6</sup>



# Vitamin D

Vitamin D is synthesised in the skin upon exposure to UVB radiation or obtained from dietary sources. Its active form, calcitriol, exerts various biological effects through a specific mechanism. Vitamin D3 yields more calcitriol than Vitamin D2, making Vitamin D3 the preferable form of Vitamin D supplementation. Calcitriol increases intestinal absorption of calcium and phosphorus by enhancing the expression of calcium-binding proteins and other transporters in the intestinal mucosa. This is essential for maintaining bone health. Vitamin D promotes the differentiation and activity of osteoblasts (bone-forming cells) and osteoclasts (bone-resorbing cells), facilitating the remodelling process necessary for bone health. Calcitriol modulates the immune system by enhancing the pathogen-fighting effects of monocytes and macrophages and decreasing inflammation.



# Vitamin E

Vitamin E is a fat-soluble antioxidant that protects cell membranes from oxidative damage. Vitamin E neutralises free radicals, thereby preventing lipid peroxidation in cell membranes. It donates electrons to reactive oxygen species (ROS), thus stabilising and terminating chain reactions that lead to cellular damage. Vitamin E is involved in cell signalling pathways, particularly those related to regulating gene expression and inflammation. It influences the activity of various signalling molecules, such as protein kinase C (PKC), which is involved in cellular growth and differentiation. Vitamin E enhances the immune response by promoting the proliferation of T lymphocytes and the production of antibodies, which are crucial for adaptive immunity.



# Vitamin K

Vitamin K is essential for blood coagulation and bone metabolism. Vitamin K serves as a cofactor for the enzyme gamma-glutamyl carboxylase, which catalyses the post-translational modification of specific proteins involved in blood coagulation. This modification (gamma-carboxylation) is essential for the function of clotting factors such as prothrombin (factor II), factors VII, IX, and X. Vitamin K is crucial for the synthesis of osteocalcin, a protein produced by osteoblasts that binds calcium to the bone matrix. This process helps maintain bone density and strength. Vitamin K also activates matrix Gla-protein (MGP), which inhibits vascular calcification, contributing to cardiovascular health by maintaining the elasticity and function of blood vessels.

# **B** Complex Vitamins

The B-complex Vitamins are essential for multiple physiological processes, including energy metabolism, neurological health, red blood cell formation, and DNA synthesis. Each B Vitamin plays an essential role in women's health, particularly during pregnancy, menstruation and as they age.



# Vitamin B1 (Thiamine)

Thiamine acts as a coenzyme in carbohydrate metabolism, particularly in the conversion of pyruvate to acetyl-CoA, a critical step in the Krebs cycle (TCA cycle). Thiamine is also involved in the pentose phosphate pathway, where it supports the production of NADPH and ribose, essential for nucleic acid synthesis. Thiamine helps convert carbohydrates into usable energy, making it critical for women who engage in physical activity or have demanding lifestyles. Thiamine supports neurotransmitter synthesis, helping prevent neurological conditions.



# Vitamin B2 (Riboflavin)

Riboflavin is a precursor for flavin mononucleotide (FMN) and flavin adenine dinucleotide (FAD), which act as electron carriers in the mitochondrial electron transport chain. Riboflavin facilitates oxidative phosphorylation, which is vital for energy production, and helps metabolise fats, proteins, and carbohydrates.

Riboflavin is involved in the metabolism of macronutrients, ensuring efficient energy production.



# Vitamin B3 (Niacin)

Niacin is a precursor for nicotinamide adenine dinucleotide (NAD) and its phosphorylated form NADP, both of which are vital coenzymes in redox reactions. These molecules play essential roles in glycolysis, the Krebs cycle, and the synthesis of fatty acids and cholesterol. Niacin also inhibits hepatic triglyceride synthesis, which helps lower LDL cholesterol levels. Niacin decreases triglycerides and LDL cholesterol while increasing HDL cholesterol, offering cardioprotective benefits. NAD plays a key role in DNA repair and cell signalling, which supports brain health and protects against cognitive decline.



### Vitamin B5 (Pantothenic Acid)

Pantothenic acid is a component of coenzyme A (CoA), which is involved in the synthesis and oxidation of fatty acids, as well as the Krebs cycle. CoA is also essential for the production of acetylcholine, a neurotransmitter crucial for nerve signalling and muscle contraction. Pantothenic acid supports the synthesis of steroid hormones in the adrenal glands, which can help balance stress-related hormones like cortisol. As a cofactor for CoA, B5 helps convert fats and carbohydrates into energy, providing sustained energy throughout the day.



# Vitamin B6 (Pyridoxine)

Vitamin B6 is converted into pyridoxal phosphate (PLP), its active form, which serves as a coenzyme in over 100 enzymatic reactions. PLP is essential for amino acid metabolism, neurotransmitter synthesis (e.g. serotonin, dopamine), and haemoglobin production. It also plays a role in gluconeogenesis and glycogenolysis.

B6 helps regulate hormone production, including serotonin and dopamine, which are crucial for mood balance and can alleviate PMS symptoms. B6 is vital for the production of cytokines and antibodies, enhancing the body's immune response.



# Vitamin B7 (Biotin)

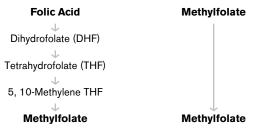
Biotin acts as a coenzyme for carboxylase enzymes involved in fatty acid synthesis, amino acid catabolism, and gluconeogenesis. These reactions are essential for maintaining the structural integrity of the skin, hair, and nails. Biotin promotes the production of keratin, the protein that forms the structure of hair, skin, and nails. Biotin helps regulate fatty acid synthesis, aiding in energy production and supporting skin barrier function.



# Folate

Folate is converted to its active form, tetrahydrofolate (THF), which is involved in one-carbon transfer reactions necessary for DNA synthesis, repair and methylation. A large percentage of women are inefficient at converting folic acid into its active form, methylfolate. This inability to convert effectively has been indicated in a large number of health conditions and pregnancy complications. In its active form, folate is needed for synthesising purines and thymidylate, the building blocks of DNA. Adequate folate intake is crucial for preventing neural tube defects (NTDs) during foetal development. Folate also supports red blood cell production and DNA synthesis in both the mother and developing foetus.

Folate supports DNA synthesis and repair, vital for cell division, particularly in tissues with high turnover rates, such as skin, hair and the immune system. Women's ProMulti contains methylfolate.



#### Absorption and transformation steps



# Vitamin B12

Vitamin B12 functions as a cofactor for methionine synthase and methylmalonyl-CoA mutase. It is essential for converting homocysteine to methionine, which is required for DNA methylation and protein synthesis. B12 also plays a role in forming myelin, the protective sheath around nerve fibres. Vitamin B12 is essential for the production of healthy red blood cells, helping to prevent anaemia. B12 supports the maintenance of the myelin sheath, ensuring proper nerve function and reducing the risk of neurodegenerative conditions.

# **Trace Minerals**

Trace minerals like Boron, Selenium, Iodine, Chromium and Zinc are essential for a range of physiological processes in women's health despite being required in tiny amounts.



#### Boron

Boron is a trace mineral that plays a role in many physiological functions, particularly in bone health and hormone regulation. Boron influences the metabolism of calcium, magnesium, and phosphorus, which are crucial for maintaining healthy bones. It enhances the activity of osteoblasts (bone-forming cells) and inhibits osteoclasts (bone-resorbing cells), promoting bone strength. Boron affects the metabolism of steroid hormones, including oestrogen and testosterone. It may enhance the body's utilisation of these hormones, potentially impacting bone density and overall health. By enhancing their bioavailability, boron may improve the absorption of nutrients, including vitamins and minerals.



#### Selenium

Selenium is an essential trace mineral that plays a role in antioxidant defence and thyroid hormone metabolism. Selenium is a key component of selenoproteins, including glutathione peroxidases, which protect cells from oxidative damage by neutralising free radicals. This activity is vital for reducing cellular stress and inflammation.

Selenium is essential for the conversion of thyroxine (T4) to the more active triiodothyronine (T3), a crucial hormone for regulating metabolism. Adequate Selenium levels support optimal thyroid function and hormone synthesis. Selenium enhances immune response by promoting the proliferation and activation of immune cells, particularly T cells and natural killer (NK) cells, improving the body's defence against infections.



# Chromium

Chromium is an essential trace element in carbohydrate and lipid metabolism. Chromium enhances insulin action by increasing the number of insulin receptors on cells, facilitating glucose uptake and utilisation. This action helps maintain normal blood sugar levels and may improve glucose tolerance. Chromium plays a role in lipid metabolism, potentially helping to lower total cholesterol and triglyceride levels. This effect may contribute to cardiovascular health. Chromium may also aid in protein metabolism, supporting muscle mass and recovery after exercise.



# lodine

lodine is an essential mineral necessary for the synthesis of thyroid hormones. Iodine is a critical component of thyroxine (T4) and triiodothyronine (T3), hormones that regulate metabolism, growth, and development. Adequate iodine levels are essential for maintaining normal thyroid function and preventing goitre. Thyroid hormones, produced from iodine, play a key role in regulating metabolic processes, including energy expenditure, protein synthesis and fat metabolism.



# Zinc

Zinc is an essential trace mineral in numerous biochemical processes, affecting immune function, cell division and wound healing. Zinc is needed for the develop and function immune cells, including T lymphocytes and phagocytes. It enhances the body's immune response and helps protect against infections. Zinc plays a role in synthesising proteins and DNA, supporting cell growth and division. It is a cofactor for numerous enzymes involved in these processes. Zinc has antioxidant properties, protecting cells from oxidative damage and inflammation. It also contributes to the stabilisation of cellular membranes. These vitamins and minerals work synergistically to support various physiological functions crucial for women's health, emphasising the importance of adequate intake through diet or supplementation.

### **Calcium and Magnesium**

Calcium and Magnesium are two minerals that play a role in women's overall health, particularly in supporting bone strength, muscle function, and metabolic processes. Ensuring adequate intake of both minerals is essential for women to support skeletal health, cardiovascular function and overall wellbeing.



### Calcium

Calcium is a mineral that plays numerous roles in the body related to bone health, muscle function and cellular signalling. Calcium is a major component of bone tissue, providing structural strength. It is critical for bone mineralisation, and adequate calcium intake throughout life is essential for maintaining bone density. Calcium ions are crucial for muscle contraction. When a muscle cell is stimulated, Calcium is released from the sarcoplasmic reticulum, allowing interaction between actin and myosin, the proteins responsible for muscle contraction. Calcium is a secondary messenger in various signalling pathways, mediating cellular responses to hormones, neurotransmitters and growth factors.



#### Magnesium

Magnesium is an essential mineral involved in over 300 enzymatic reactions in the body, impacting various physiological functions. Magnesium is needed for muscle contraction and nerve function. It helps regulate calcium levels in muscle cells, preventing excessive contraction and promoting relaxation. Magnesium is required for ATP (adenosine triphosphate) synthesis, the primary energy currency of cells. It facilitates enzymatic reactions involved in energy metabolism. Magnesium plays a role in bone structure and metabolism, contributing to bone density and mineralisation.

#### Probiotics Lactobacillus crispatus and Lactobacillus reuteri

*Lactobacillus crispatus* and *Lactobacillus reuteri* are two key probiotic strains that offer significant benefits for women's health, particularly in supporting vaginal and gut microbiota balance.



### Lactobacillus crispatus

*L. crispatus* is a beneficial probiotic strain found in the vagina. Its dominance is associated with a healthy vagina. Studies show that *L. crispatus* has a protective effect against sexually transmitted infections, bacterial vaginosis and vulvovaginal candidiasis.<sup>7</sup> *L. crispatus* produces lactic acid, which lowers vaginal pH. This acidic environment inhibits the growth of pathogenic bacteria and yeast and reduces the risk of bacterial vaginosis and yeast infections. *L. crispatus* competes with harmful microorganisms for attachment sites on the vaginal epithelium, and by colonising the vaginal mucosa, it prevents the establishment of pathogens. *L. crispatus* enhances local immune responses by promoting the production of antimicrobial peptides and cytokines.<sup>8</sup>



### Lactobacillus reuteri

*L. reuteri* is a probiotic strain that offers various health benefits, particularly in gut and vaginal health. It produces lactic acid and organic acids that acidify the environment and inhibit the growth of pathogenic bacteria. *L. reuteri* stimulates the immune system by increasing the production of immunoglobulin A (IgA)<sup>9</sup> and enhancing the activity of macrophages and T cells, helping to protect against infections. *L. reuteri* strengthens the intestinal barrier by promoting the expression of tight junction proteins. This improvement in gut barrier function prevents the translocation of harmful bacteria and toxins into the bloodstream. *L. reuteri* has anti-inflammatory properties, which help alleviate symptoms associated with inflammatory bowel diseases and other inflammatory conditions.



# Cranberry

Cranberry is well known for its role in urinary tract health. Its mechanisms of action include:

**Inhibition of pathogen adhesion:** Cranberry contains proanthocyanidins (PACs), which prevent *E. coli* from adhering to the urinary tract walls, preventing urinary tract infections (UTIs). Cranberry exerts its inhibitory effects on *E. coli* whist still in the digestive tract, rendering them incapable of clinging to urinary tissue cells before they leave the digestive tract.

**Antioxidant properties:** Cranberries are rich in antioxidants, such as Vitamin C and flavonoids, which help neutralise free radicals and reduce oxidative stress.

**Support for immune function:** The phytochemicals in cranberries promote the activity of immune cells, improving the body's ability to fend off infections.

**Anti-inflammatory effects:** Cranberry extract has anti-inflammatory properties that can help reduce inflammation in the urinary tract and potentially other body areas.



# Ginkgo Biloba

Ginkgo Biloba is well-known for its cognitive and circulatory benefits.

**Enhanced blood flow:** Ginkgo Biloba improves blood circulation by increasing the availability of nitric oxide (NO), dilating blood vessels and reducing blood viscosity. This is beneficial for the brain as it enhances cognitive function and memory.<sup>12</sup>

Antioxidant and anti-Inflammatory effects: Ginkgo contains flavonoids and terpenoids, which have potent antioxidant and anti-inflammatory properties.

**Neuroprotection:** Ginkgo Biloba promotes neuronal health and protects against age-related cognitive decline. It improves memory and cognitive processing by enhancing neurotransmitter activity and neuroplasticity.

# Lysine, Proline and Glycine

Lysine, Proline, and Glycine are three amino acids involved in collagen synthesis and the overall health of connective tissues. L-Lysine is essential for collagen cross-linking, as it is a precursor to hydroxylysine, which strengthens collagen fibres. It also supports tissue repair and immune function. L-Proline is necessary for producing hydroxyproline, an amino acid that stabilises the collagen triple helix, ensuring the strength and integrity of skin, bones, and other connective tissues. Glycine, the most abundant amino acid in collagen, forms the basic structural framework for collagen fibres, contributing to flexibility and resilience. In addition, these amino acids have the following benefits.



# L-Lysine

L-Lysine enhances the absorption of calcium from the gastrointestinal tract, contributing to bone health and preventing calcium deficiency.



# L-Proline

L-Proline may exhibit antioxidant properties, helping to protect cells from oxidative stress and damage caused by free radicals. This action supports overall cellular health and longevity.



# L-Glycine

L-Glycine functions as an inhibitory neurotransmitter in the central nervous system. It helps regulate neuronal excitability and may promote relaxation, making it beneficial for reducing anxiety and improving sleep quality. L-Glycine is involved in the detoxification processes in the liver. It helps to conjugate toxins, making them more water-soluble and easier for the body to eliminate. L-Glycine supports muscle health by aiding in protein synthesis and energy production. It can enhance physical performance and recovery after exercise.



# Ashwagandha

Ashwagandha is an adaptogenic herb that reduces stress and enhances wellbeing.

**Stress reduction:** Ashwagandha modulates the hypothalamic-pituitary-adrenal (HPA) axis, regulates the body's response to stress, and reduces cortisol levels, helping alleviate symptoms of stress and anxiety.

**Anti-inflammatory:** Ashwagandha contains anti-inflammatory withanolides, benefiting conditions related to chronic inflammation.

**Cognition:** Ashwagandha enhances cognitive function by stimulating neurogenesis, mediated by the PI3K/AKT signalling pathway, which activates different pathways including mTOR, CREB, GSK3, NF-<sup>K</sup>B, Nrf2, and NOS.<sup>10</sup>

Ashwagandha supports memory, attention, and information processing due to its ability to increase brain-derived neurotrophic factor (BDNF), a protein that supports neurone growth and survival.

**Hormonal balance:** Ashwagandha improves reproductive health in women by supporting hormonal balance and enhancing libido. It works via the hypothalamus-pituitary-adrenal (HPA) axis to decrease cortisol, which has a positive effect on reproductive hormones. It also influences thyroid function by promoting the synthesis of thyroid hormones.<sup>11</sup>

# **DRUG INTERACTIONS**

Retinoids	Vitamin A may increase the risk of retinoid toxicity when combined with these drugs.
Warfarin	Vitamin K may reduce the effectiveness of this drug. Selenium may increase the effectiveness of this drug. Ginkgo Biloba may increase the risk of bleeding when taken with this drug.
Talinolol	Ginkgo Biloba may increase the levels of this drug.
Tetracycline Antibiotics	Vitamin A may increase the risk of pseudotumor cerebri when taken with these drugs. Calcium and Magnesium reduce the absorption of these drugs. Zinc may decrease the effects of these drugs.
Anticoagulant / Antiplatelet Drugs	Vitamin B3 and Ginkgo Biloba may increase the effects of these drugs.
Antihypotensive Drugs	Vitamin B3 and Ashwagandha may increase the effects of these drugs.
Gemfibrozil	Vitamin B3 may increase the risk of developing myopathy when taken with this drug.
Hepatotoxic Drugs	Vitamin B3 and Ashwagandha may increase the risk of hepatotoxicity when taken with these drugs.
Thyroid Hormones	Vitamin B3 may reduce the levels of these drugs. Ashwagandha may increase the negative effects of these drugs.
Amiodarone	Vitamin B6 may increase the risk of amiodarone-induced photosensitivity.
Alkylating Agents	Vitamin C and Vitamin E may reduce the effects of these drugs.
Aluminium-containing	Vitamin C, Vitamin D and Calcium citrate increases the absorption of aluminium-containing drugs.
Antitumor Antibiotics	Vitamin C and Vitamin E may reduce the effectiveness of these drugs.
Oestrogens	Vitamin C may increase the rate of side effects from oestrogen. Monitor these patients for oestrogen related side effects.

Moderate

Calcipotriene	Vitamin D and Calcium may increase the risk of hypercalcaemia when taken with this drug.
Barbiturates	Selenium may affect the metabolism of these drugs.
Immunosuppressant	Selenium and Ashwagandha may reduce the effectiveness of these drugs.
Bisphosphonates	Calcium reduces the absorption of these drugs, Take bisphosphonates at least 30 minutes before Calcium.
Diltiazem	Calcium may reduce the effectiveness of this drug.
Elvitegravir	Calcium may reduce the effectiveness of this drug.
Levothyroxine	Calcium reduces levothyroxine absorption. Take levothyroxine and calcium supplements at least 4 hours apart.
Lithium	Lithium increases the risk of hypercalcaemia when taken with calcium. Iodine may increase the effects of this drug.
Quinolone Antibiotics	Calcium and Magnesium may reduce the absorption of these drugs. Zinc may decrease the effects of these drugs.
Sotalol	Calcium reduces the absorption of this drug. Separate doses by 4-6 hours after calcium supplementation.
Antidiabetic Drugs	Chromium may increase the effects of these drugs. Ashwagandha may increase the effects of these drugs. Ginkgo Biloba may alter the effects of these drugs.
Insulin	Chromium may increase insulin sensitivity.
Methotrexate	Folate may decrease the effectiveness of this drug.
Phenobarbital	Folic Acid may increase the risk of seizures when taken with this drug.
Phenytoin	Folic Acid may reduce the effects of this drug.
Pyrimethamine	Folic Acid may decrease the effects of this drug.
Bisphosphonates	Magnesium may increase the absorption of these drugs.
Digoxin	Magnesium may decrease the absorption of this drug.
Amiodarone	This drug contains iodine. Be careful not to cause excessive iodine levels when iodine is taken with this drug.

Antithyroid Drugs	lodine may alter the effects of these drugs.
Cisplatin	Zinc may interfere with the effects of these drugs.
Integrase Inhibitors	Zinc may decrease the levels of these drugs.
Penicillamine	Zinc may reduce the levels of this drug.
Ritonavir	Zinc may reduce the levels of this drug.
Antibiotics	Antibiotics may kill lactobacillus bacteria. Take Women's ProMult at least 2 hours before taking antibiotics.
Benzodiazepines	Ashwagandha may increase the sedative effects of these drugs,
CNS Depressants	Ashwagandha may increase the sedative effects of these drugs.
Alprazolam	Ginkgo Biloba may decrease the levels and effects of this drug.
Atorvastatin	Ginkgo Biloba may decrease the effects of these drugs.
Efavirenz	Ginkgo Biloba may decrease the function of this drug.
lbuprofen	Ginkgo Biloba may increase the risk of bleeding when taken with this drug.
P-glycoprotein Substrates	Ginkgo Biloba may increase the level of these drugs.
Priapism	Ginkgo Biloba may increase the levels and side effects of this drug
Trazodone	Ginkgo Biloba may increase the level and effects of this drug.
Clozapine	Glycine may decrease the effects of this drug.

Drug-nutrient interactions have been taken from the Natural Medicines Database, October 2024. Please do your own due diligence before recommending this product to individuals taking medicines.

Moderate

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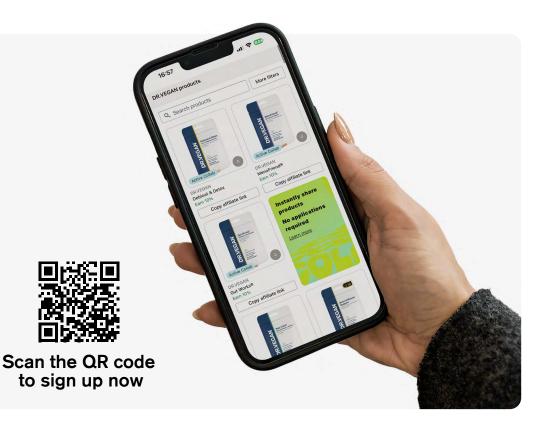
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