

# Iron Bisglycinate Complex

Code: FE2036 – 30 vegetable capsules



**Iron Bisglycinate Complex** is a formula made up of ferrous bisglycinate, B complex vitamins, vitamin C and copper, and is useful for those suffering from anaemia, weak immune systems, malabsorption syndrome or a lack of energy. Its absorption rate is up to three times greater than other forms of iron, since it's absorbed through an alternative route, the intestinal mucosa. As such, it doesn't interfere with other forms of dietary iron.

It helps transport oxygen and vital nutrients throughout the body and can help maintain normal metabolic function and promote a feeling of strength, vigor and vitality.

Iron and vitamins B<sub>6</sub> and B<sub>12</sub> contribute to normal red blood cell and haemoglobin formation, and together with folates, participate in normal immune system functioning and help diminish tiredness and fatigue. Folates contribute to the normal formation of blood cells and the growth of maternal tissue during pregnancy. Vitamin C improves iron absorption and together with B<sub>2</sub> helps protect cells against oxidative stress.

It doesn't cause the side effects common to other iron supplements such as stomach pain, constipation, diarrhoea or cramping.

**Ingredients:** Bulking agent: microcrystalline cellulose, ferrous bisglycinate, L-ascorbic acid (vit. C), calcium-L-methylfolate, methylcobalamin (vit. B<sub>12</sub>), anticaking agents: magnesium salts of fatty acids and silicon dioxide, thiamin hydrochloride (vit. B<sub>1</sub>), riboflavin 5'-phosphate sodium (vit. B<sub>2</sub>), inositol hexanicotinate (vit. B<sub>3</sub>), pyridoxal 5'-phosphate (vit. B<sub>6</sub>), cupric citrate, vegetable capsule (glazing agent: hydroxypropylmethylcellulose; purified water).

## Nutritional information:

1 capsule (629 mg)

Iron (ferrous bisglycinate)	35 mg (250 %*)
Copper (cupric citrate)	1 000 µg (100 %*)
Thiamin (vit. B <sub>1</sub> ) (from 5 mg thiamine hcl)	4,5 mg (409 %*)
Riboflavin (vit. B <sub>2</sub> ) (from 5 mg riboflavin 5'-phosphate)	3,75 mg (268 %*)
Niacin (vit. B <sub>3</sub> ) (inositol hexanicotinate)	4,5 mg (28 %*)
Vitamin B <sub>6</sub> (from 5 mg pyridoxal 5'phosphate)	3,42 mg (244 %*)
Folate (calcium-L-methylfolae)	1 000 µg (500 %*)
Vitamin B <sub>12</sub> (methylcobalamin)	1 000 µg (40 000 %*)
Vitamin C (L-ascorbic acid)	75 mg (94 %*)

\*NRV: Nutrient Reference Value in %

## Size and format:

30 vegetable capsules

## Recommended daily dose:

1 capsule daily with food.

If you are taking medication, take this product a few hours before or after them.

Do not exceed the stated recommended daily dose.

## Indications and uses:

Different studies have shown that iron bisglycinate can be helpful for the following conditions:

People with unbalanced diets, pregnant women and women with abundant menstruation, people who have been diagnosed with anaemia from iron deficiency, and cases of constant fatigue.

## Cautions:

It is recommended to consult a health-care practitioner before using if you are pregnant or breast-feeding or if you are treated with medication.

**IRON (FERROUS BISGLYCINATE):** Iron is an essential oligoelement of the proteins involved in oxygen transportation, and is necessary for growth regulation and cell differentiation. A deficiency reduces the amount of oxygen released into cells, causing fatigue, reducing performance and lowering immunity.

Iron amino acid chelate is the result of a covalent union between iron in its ferrous form (Fe<sup>2+</sup>), and an organic ligand (bisglycinate), which reduces the cation load and provides some protection at the site of the union, decreasing gastrointestinal toxicity due to local irritation<sup>(1)</sup>.

Ferrous bisglycinate is a chelated metal in which the chelation unions are strong enough to resist division from digestion and to protect its atoms so they can be absorbed and utilized<sup>(1,2)</sup>. This chelated compound decreases the side effects described with other iron presentations<sup>(2,3)</sup>.

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The absorption of iron in its chelated form is greater than its absorption as an inorganic salt since amino acids protect it from chemical reactions that can interfere with its absorption, reducing potential gastric irritability since they keep it from coming into contact with the mucosa, and increase its bioavailability upon using alternate routes of absorption, providing a fast and safe supply. Once absorbed in the mucosa, the chelate is hydrolysed and the iron released into plasma and other tissues is regulated as it is with any other iron source<sup>(4,17)</sup>.

According to the AAFCO (Association of American Feed Control Officials), the average weight of a hydrolysed amino acid should be approximately 150Da, and the molecular weight of the chelate should not exceed 800Da<sup>(5)</sup> (the average molecular weight of an amino acid is 110Da. Dalton (Da) is an alternate name for the atomic mass unit, and kilodalton (kDa) is 1,000 daltons. Thus a protein with a mass of 64kDa has a molecular weight of 64,000 grams per mole). Additionally, in order to be nutritionally sound, the chelate should have an appropriate constant stability, present electric neutrality, and its ligand should be easily metabolised by the body. Ferrous bisglycinate meets all of these requirements<sup>(6)</sup>.

**COPPER:** Copper improves iron absorption and helps the body form red blood cells. It also helps maintain healthy blood vessels, nerves, immune system and bones<sup>(7)</sup>.

**THIAMIN (Vit. B1):** Thiamin, or vitamin B<sub>1</sub> is a water soluble vitamin of great relevance as it participates in a number of reactions in the body as well as in carbohydrate metabolism for obtaining energy from macronutrients. It also plays an important role in proper nervous system function since neurons need vitamin B<sub>1</sub> in order to function normally. On the other hand, thiamin also helps maintain proper muscle and heart function. A thiamin deficiency is associated with certain disorders such as loss of appetite, weakness, bad mood, and in more pronounced cases, depression, numbness or tingling of the extremities, mental confusion and tachycardia<sup>(8)</sup>.

**RIBOFLAVIN (Vit. B2):** Riboflavin plays an important role in obtaining the energy the body needs. Along with other B vitamins, riboflavin is essential for obtaining energy from carbohydrates, protein and fat, and plays an important role in maintaining healthy skin and mucous membranes<sup>(9)</sup>. Additionally, vitamin B<sub>2</sub> is necessary for the activity of other vitamins such as B<sub>6</sub> or pyridoxine, and for the formation of vitamin B<sub>3</sub>, or niacin, from tryptophan, an essential amino acid. It also contributes to antibody and red blood cell formation<sup>(10)</sup>.

**NIACIN (Vit. B3):** Niacin is a component of the coenzymes NAD and NADP, which are present in all cells and are absolutely necessary for oxidation-reduction reactions that occur during the breakdown of carbohydrates, protein and fat, therefore playing an important role in energy production<sup>(11)</sup>.

**VITAMIN B6:** Vitamin B<sub>6</sub> helps maintain normal brain function, participates in red blood cell formation and intervenes in protein metabolism. The active form of this water soluble vitamin, also called pyridoxine, is pyridoxal phosphate, which participates in protein metabolism. Because it intervenes in protein synthesis, it also does so in amino acid metabolism, as well as the production of red blood cells and antibodies that protect us against infection<sup>(12)</sup>.

**FOLATE:** Folate is necessary for the formation of the *hemo* group which transports oxygen through the blood. This is why high levels of folic acid are found in the bone marrow, where new blood cells are continually synthesized<sup>(13)</sup>. Folate deficiency occurs above all in certain risk groups (pregnant women and the elderly) and can be associated with determined pathologies (chronic alcoholism, intestinal pathology or vitamin B<sub>12</sub> deficiency<sup>(13,14)</sup>.

**VITAMIN B12:** Vitamin B<sub>12</sub> is necessary for the metabolism of fatty acids and folic acid, the production of red blood cells and energy, the proper functioning of the central nervous system and cell development<sup>(15)</sup>.

Low folic acid and vitamin B<sub>12</sub> levels can lead to megaloblastic anaemia, a disease characterized by an abnormal enlargement of red blood cells in the blood, rendering them incapable of separating during the multiplication process<sup>(14,15)</sup>.

**VITAMIN C:** Vitamin C participates in iron absorption, which can form low molecular weight chelates that facilitate absorption and allow for greater iron mobilization from iron deposits. It can also improve the haematological state through other mechanisms, such as decreased inhibition of the mineral's absorption on behalf of substances such as tannins, the activation of enzymes capable of converting folate into its active form and the protection of red blood cells from oxidative damage<sup>(16)</sup>.

Vitamin C requirements increase in situations such as pregnancy, breastfeeding, stress, smoking, oral contraceptive use, recovery from injury, cardiovascular disease and other diseases that alter the absorption of this vitamin.

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