41590_PI_P7

BIOGEN
FOR THE RESULTS YOU WANT

# SUPREME B-COMPLEX

## *PROFESSIONAL INFORMATION*

**D 33.7 Combination Product. Health Supplement**
**Health supplements are intended only to complement health or supplement the diet.**
This unregistered medicine has not been evaluated by SAHPRA for its quality, safety or intended use.

**SCHEDULING STATUS:** S0

**1. NAME OF THE MEDICINE**
**BIOGEN SUPREME B-COMPLEX (Vegetable capsules)**

**2. QUALITATIVE AND QUANTITATIVE COMPOSITION**

| **EACH VEGETABLE CAPSULE CONTAINS:** | | **%NRV*** |
|---|---|---|
| Vitamin $B_1$ (as Thiamine) | 25,00 mg | 2 083 % |
| Vitamin $B_2$ (as Riboflavin 5 Phosphate) | 25,00 mg | 1 923 % |
| Vitamin $B_3$ (as Nicotinamide) | 100,00 mg | 625 % |
| Vitamin $B_5$ (as D Calcium Pantothenate) | 25,00 mg | 500 % |
| Folate (as Calcium L-5-Methyltetrahydrofolate) | 250, 00 µg | 63 % |
| Vitamin $B_{12}$ (as Methylcobalamin) | 50,00 µg | 2 083 % |
| Biotin (as D-Biotin) | 250,00 µg | 833 % |
| Choline (as Choline bitartrate) | 100,00 mg | 18 % |
| Inositol | 100,00 mg | |
| Para-amino benzoic acid (PABA) | 25,00 mg | |
| *Panax Ginseng* (Ginseng) [Root, as 100 mg of a 5:1 extract] | 500,00 mg | |

*%Nutrient Reference Values (NRVs) for individuals 4 years and older (2010).
Sugar free

**3. PHARMACEUTICAL FORM**
Vegetable capsules (60's)

**4. CLINICAL PARTICULARS**

**4.1 Therapeutic indications**
BIOGEN SUPREME B-COMPLEX, with choline, inositol and folate that supports energy production, normal methylation and homocysteine metabolism while providing cardiovascular and nervous system support.

**4.2 Posology and method of administration**

***Adults (18 years and older)***
Take 2 (two) vegetable capsules 2 to 3 (two to three) times daily before meals, or as recommended by your healthcare provider.

Take BIOGEN SUPREME B-COMPLEX vegetable capsules orally.
BIOGEN SUPREME B-COMPLEX is not recommended for use in children or adolescents below 18 years of age.

**4.3 Contraindications**
- Hypersensitivity to any of the ingredients listed under section 6.1.
- Consult a relevant health care provider before use if you suspect that you may have insulin resistance, high blood glucose levels or diabetes
- Contact a relevant health care provider if you are taking sulphonamides.

**4.4 Special warnings and precautions for use**
- The use in children and adolescents under 18 years of age has not been established (see section 4.8 d).
- Use Panax ginseng with caution in patients who are pregnant, breastfeeding or have diabetes.
- Use Panax ginseng with caution in patients are taking antidepressant medication, blood thinners or digoxin.
- Patients with coronary stents should avoid Folate and vitamin $B_{12}$ supplementation, as it may increase the rate of restenosis.
- Consult a relevant health care provider before use if you suspect that you may have insulin resistance, high blood glucose levels or diabetes.
- Discontinue use at least 2 weeks prior to elective surgical procedures.

**4.5 Interaction with other medicines and other forms of interaction**
No specific drug interaction studies have been performed on BIOGEN SUPREME B-COMPLEX as a combination product due to the complexity associated with the number of active ingredients present. However the known interactions of the active ingredients have been summarized.

**Interactions with Medicines**
- Taking Panax ginseng with antidiabetes drugs might increase the risk of hypoglycemia, Panax ginseng might decrease blood glucose levels and it is advised that blood glucose levels are monitored closely.
- Caution is advised when taking Panax ginseng with caffeine, concomitant use might increase the risk of stimulant effects.
- Panax ginseng might decrease levels of drugs metabolized by CYP1A1, increase levels of drugs metabolized by CYP2D6 and increase or decrease levels of drugs metabolized by CYP3A4.
- Concomitant use of large amounts of Panax ginseng might interfere with hormone replacement therapy, decrease blood levels of oral fexofenadine, reduce effects of furosemide, increase the effects and adverse effects of imatinib, and interfere with immunosuppressive therapy.
- Panax ginseng in combination with insulin might increase the risk of hypoglycemia.
- Panax ginseng with stimulant drugs might increase the risk of adverse stimulant effects.
- Vitamin $B_2$ may theoretically decrease the effectiveness of broad-spectrum antibiotics (quinolones or tetracyclines).
- Folate may antagonize the antiparasitic effects of pyrimethamine against toxoplasmosis and Pneumocystis carinii pneumonia.
- Concomitant use of manganese and antipsychotics, such as haloperidol, phenothiazine-derivatives, or others, may increase the risk of manganese toxicity.
- Folate may have an antagonistic effect on primidone and phenobarbital, consequently increasing the risk for seizures.
- Folate may reduce the efficacy of methotrexate when using concomitantly.
- Inositol might interfere with drugs prescribed to treat diabetes and may influence insulin resistance or blood glucose levels.

**Interactions with Diseases/Impairments**
- Panax ginseng might exacerbate certain autoimmune diseases by stimulating disease activity; avoid use or use with caution in patients with autoimmune diseases such as multiple sclerosis (MS), systemic lupus erythematosus (SLE), rheumatoid arthritis (RA), or others. Rhodiola might have immunostimulatory effects. Panax ginseng may stimulate immune function.
- Panax ginseng might increase bleeding; patients are advised to avoid in cases of hemorrhage or thrombosis. Panax ginseng has been reported to decrease blood coagulation.
- Panax ginseng might increase adverse cardiovascular effects; caution is advised in patients with cardiac conditions.
- Panax ginseng might increase the development of hormone-sensitive tumors; avoid in patients with hormone-sensitive conditions such as breast cancer, uterine cancer, ovarian cancer, endometriosis, and uterine fibroids.
- Panax ginseng might interfere with immunosuppressive therapy; avoid use. Panax ginseng might have immune system stimulating properties.
- Panax ginseng might worsen insomnia; use with caution. High doses of ginseng have been associated with insomnia.
- Panax ginseng might worsen some symptoms; use with caution. High doses of ginseng have been associated with insomnia and agitation in people with schizophrenia.
- The absence of hydrochloric acid in gastric secretions causes decreased stomach acidity, and consequently impaired iron absorption.
- Patients with coronary stents should avoid Folate and vitamin $B_{12}$ supplementation, as it may increase the rate of restenosis.
- Vitamin $B_{12}$ contains cobalamin and cobalt and may cause allergic reactions in patients who are sensitive to both these compounds.
- Vitamin $B_1$ absorption is decreased in patients receiving haemodialysis.
- Patients with liver disease, such as hepatitis, biliary obstruction, cirrhosis etc., may experience manganese accumulation and toxicity and decreased vitamin $B_2$ absorption. Theoretically, chromium might exacerbate liver disease. Vitamin $B_2$ absorption is decreased in patients with liver disease such as hepatitis, biliary obstruction, and cirrhosis.
- Inositol might interfere with diabetes and may influence insulin resistance or blood glucose levels.

**Interactions with Diseases/Impairments**
Vitamins, minerals, and nutrients obtained from other sources should be considered when prescribing / suggesting BIOGEN SUPREME B-COMPLEX.

**4.6 Fertility, pregnancy and lactation**
The safety and efficacy of BIOGEN SUPREME B-COMPLEX in pregnancy and lactation has not been established.

**4.7 Effects on ability to drive and use machines**
BIOGEN SUPREME B-COMPLEX may affect the ability to drive or operate machinery, as it may cause headache and somnolence.
Please exercise care until you are certain that your ability to perform such activities is not affected.

**4.8 Undesirable effects**

**4.8 a Summary of safety profile**
When used orally BIOGEN SUPREME B-COMPLEX is generally well tolerated when using as prescribed.

**4.8 b Summary of adverse reactions**
Gastrointestinal disorders *(Frequent)*: Abdominal pain, esophagitis, heartburn, constipation, belching, flatulence, gastrointestinal irritation, diarrhoea, nausea, metallic taste in mouth, and vomiting.
Gastrointestinal disorders *(Frequency unknown)*: Dry mouth, and flu-like symptoms.
Dermatological disorders *(Frequency unknown)*: Skin irritation, skin rash pruritus, and urticaria.
*Neurological disorders (Frequency unknown)*: Headache, anxiety and somnolence.
Musculoskeletal disorders *(Frequency unknown)*: Breast soreness.

**4.8 c Description of selected adverse reactions**
Severity of adverse effects listed in Section 4.8 b are typically dose dependent.

**4.8 d Paediatric Population**
The use of BIOGEN SUPREME B-COMPLEX in children and adolescents has not been established due to lack of adequate data.

**4.8 e Other special populations**
The use of BIOGEN SUPREME B-COMPLEX in special populations has not been established due to lack of adequate data.

**4.9 Overdose**
Insufficient reliable information for BIOGEN SUPREME B-COMPLEX overdosage.
Side effects listed in section 4.8 can be precipitated and/or be of increased severity.

**Reporting of side effects**
Reporting suspected adverse reactions after authorisation of the medicine is important. It allows continued monitoring of the benefit/risk balance of the medicine. Healthcare providers are asked to report any suspected adverse reactions to SAHPRA via the "6.04 Adverse Drug Reactions Reporting Form", found online under SAHPRA's publications: *https://www.sahpra.org.za/Publications/Index/8*.

**5. PHARMACOLOGICAL PROPERTIES**

**5.1 Pharmacodynamic properties**
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**Mechanism of action:**
Vitamin $B_1$
Binds with adenosine triphosphate (ATP) to form the coenzyme, thiamine diphosphate, which is required for carbohydrate metabolism.

Vitamin $B_2$
Converted to the co-factors, flavin mononucleotide (FMN) and flavin-adenine dinucleotide (FAD), in the body. These cofactors attach and consequently activates flavoproteins. Flavoproteins play a role in many enzymatic and metabolic processes in the body.

Vitamin $B_3$
Unknown.

Vitamin $B_5$
Precursor of coenzyme A (CoA) and acyl carrier protein, is involved in gluconeogenesis; energy release from carbohydrates; fatty acid synthesis/degradation; and the synthesis of sterols, acetylcholine, steroid hormones, porphyrins, and other compounds. Vitamin $B_5$ also seems to be essential for normal epithelial function.

Folate
Helps the body to metabolise proteins.

Vitamin $B_{12}$
Helps to metabolise carbohydrates, fats and proteins.

Choline
Helps to support liver function.

Inositol
An essential component of cell membrane phospholipids.

Para - Aminobenzoic Acid
A part of the folic acid molecule and is found naturally in several foods including grains, eggs, milk, and meat.

Panax Ginseng
The ginsenoside Rb1 has been suggested to exert its memory effects by minimizing the inhibitory effects of beta-amyloid peptides, which are thought to play a role in memory degeneration. The neuroprotective effects of Panax ginseng may play a role in the improved performance in these patients.

**5.2 Pharmacokinetic properties**
Vitamin $B_1$
*Absorption:* Vitamin $B_1$ is absorbed at the proximal part of the small intestine. Smaller dosages are absorbed through active transport, and higher dosages through passive diffusion.
*Distribution:* Distributed into the heart, skeletal muscle, kidneys, liver, and the brain
Metabolism: Vitamin $B_1$ is phosphorylated during intestinal uptake. In the human body, vitamin $B_1$ is predominantly found in its metabolically active form, thiamine diphosphate.
*Excretion:* Vitamin $B_1$ and its metabolites are excreted in the urine.

Vitamin $B_2$
*Absorption:* Absorbed from the gastrointestinal tract. Absorption mechanism for riboflavin is saturable.
*Distribution:* Widely distributed to tissues; however, little is stored in the spleen, liver, heart, and kidneys.
*Metabolism:* Hepatically metabolized.
*Excretion:* Vitamin $B_2$ is excreted in the urine.

Vitamin $B_3$
Unknown.

Vitamin $B_5$
*Absorption:* Vitamin $B_5$ is absorbed in the intestine and delivered directly into the bloodstream by active transport. At higher dosages, passive diffusion may occur.
*Distribution:* Red blood cells carry Vitamin $B_5$ throughout the body. Vitamin $B_5$ is predominantly present in the form of coenzyme A (CoA) in the body.
*Metabolism:* Acts as a precursor for the synthesis of CoA and acyl carrier protein.
*Excretion:* Vitamin $B_5$ is excreted in the urine.

Folate
*Absorption:* Synthetic Folate is almost 100 % bioavailable. Absorption occurs primarily in the duodenum and jejunum.
*Distribution:* Unknown.
*Metabolism:* Once absorbed, Folate is reduced to tetrahydrofolate which enters a methylation cycle. Tetrahydrofolate is converted to L-methylfolate.
*Excretion:* Predominantly excreted in the urine; however, it can also be present in the faeces.

Vitamin $B_{12}$
*Absorption:* Vitamin $B_{12}$ binds with intrinsic factor which allows active transportation in the terminal ileum. Vitamin $B_{12}$ can also be passively absorbed, although, to a much lesser extent than active absorption.
*Distribution:* Unknown
*Metabolism:* Unknown
*Excretion:* Half-life of vitamin $B_6$ is ± 25 - 30 hours.

Biotin
*Absorption:* Biotin is completely absorbed post oral administration. Peak concentration is reached after 1 - 2 hours.
*Distribution:* The sodium-dependent multivitamin transporter (SMVT) mediates the uptake of biotin into the liver and peripheral tissues, and the reuptake of biotin in the kidneys.
*Metabolism:* Biotin metabolites are formed by beta-oxidation, sulfur oxidation, or both.
*Excretion:* Biotin is excreted in the urine as unmetabolized biotin or as the biotin metabolites (biotind, l-sulfoxides, bisnorbiotin methyl ketone, bisnorbiotin, biotin sulfone, and tetranorbiotin-l-sulfoxide).

Choline
*Absorption:* Choline displays one-compartment pharmacokinetics with very slow oral absorption.
*Distribution:* Choline concentrates in nervous tissue as a component of cell membranes.
*Metabolism:* Choline that is not absorbed is metabolized by intestinal bacteria to trimethylamine (TMA).
*Elimination:* The elimination half-life of oral choline has been reported to extend up to 56 hours.

Inositol
*Absorption:* Orally, inositol is transported across the intestinal mucosa and absorbed almost completely.
*Metabolism:* Inositol is metabolized by myo-inositol oxidase, which is located at the renal cortex.
*Excretion:* Clearance of inositol in preterm infants is estimated to be 0.06 L/Kg/hr).

PABA
*Absorption:* Some clinical research shows that PABA is passively absorbed from the small intestine and enters the portal circulation.
*Metabolism:* After absorption, PABA becomes acetylated and conjugated in the liver to glycine. Its major metabolites are para-acetoamidobenzoic acid (PAABA), para-acetamidohippuric acid (PAAHA), and para-aminohippuric acid (PAHA).
*Excretion:* PABA is excreted primarily in the urine, with small amounts found in the feces, bile, milk, and other secretions.

Panax Ginseng
*Absorption:* Ginsenosides seem to have a low oral bioavailability in humans. Panax ginseng or ginsenoside Re, the ginsenosides Re, Rb1, and Rb2 were not detectable in blood samples taken over 0.5-6 hours.
*Excretion:* In humans, consuming a single oral dose of Panax ginseng extract 2.95 grams results in a ginsenoside compound K half-life of about 10.2 hours.

**5.3 Preclinical safety data (Adults)**
No data available for BIOGEN SUPREME B-COMPLEX.

**6. PHARMACEUTICAL PARTICULARS**

**6.1 List of excipients**
- Magnesium stearate and microcrystalline cellulose

**6.2 Incompatibilities**
In the absence of compatibility studies, BIOGEN SUPREME B-COMPLEX must not be mixed with other medicines.

**6.3 Shelf Life**
24 Months.

**6.4 Special precautions for storage**
Store in a cool, dry place at or below 25 °C.
Protect from moisture.
Keep the container tightly closed.
KEEP OUT OF REACH OF CHILDREN.

**6.5 Nature and contents**
60 white vegetable capsules are available in a white plastic container sealed with a white plastic screw cap.
The container contains a non-edible silica gel sachet and a foam insert.

**6.6 Special precautions for disposal**
No special requirements.

**7. HOLDER OF CERTIFICATE OF REGISTRATION**
Biogen.
23 Stag Road,
Glen Austin,
South Africa.
Tel: 0860 347 243.
Email: info@biogen.co.za
Website: www.biogen.co.za

**8. REGISTRATION NUMBER**
To be allocated.

**9. DATE OF FIRST AUTHORISATION/RENEWAL OF THE AUTHORISATION**
Not Applicable.

**10. DATE OF REVISION OF THE TEXT**
May 2023.

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| | |
|---|---|
| **JOB:** BPS_Biogen Supreme B-Complex_ 60's | **SIZE:** 362mm x 260mm |
| **STOCK:** Foil Substrate: ☐ Clear Substrate: ☐ White Substrate: ☐ Paper: ☒ Other: ☐ | |
| **COLOURS:** ■ K | **FINISHING:** ☐ Foil / Holographic Foil ☐ Matte ☐ Gloss ☐ Spot UV ☐ Doming ☐ Embossing |
| **PLEASE CHECK CAREFULLY** Although we endeavour to proof accurately, we cannot accept responsibility for errors once proofs are signed and accepted by our clients. | |