

**Defence** is a carefully researched product that has been formulated with the purpose of supporting the immune system.

The key nutrients that help support the immune system include; **vitamins A, C and E, vitamin B5 (Pantothenic Acid)**, necessary for the production of antibodies; **Choline**, which helps the liver in its role as a detoxifier; **vitamins B12 and Folic Acid**, necessary for cell production; **vitamin B3 (Niacin)**, which aids the digestive system; **Iron**, which works on blood cells and helps build resistance; and **Zinc**, necessary for cell production, enzyme and other body processes. The B vitamins are also important in the release of energy from food. Many of these nutrients work better with other allied nutrients, hence balanced diet is always the watchword. Some people on restricted diets may require additional supplementation.

**proto-col's defence** contains a full range of vitamins, minerals and other nutrients. Amongst these are **Acidophilus** to supplement bowel flora, **Aloe Vera** (as a 200x concentrate) and **Atriplex**, the biblical herb that contains trace minerals. There is also a larger amount of **Vitamin C (with Bioflavonoids)**, **B5 (Pantothenic Acid)** and **Biotin** than in comparable products. The line-up is completed with a full range of macro-minerals and trace minerals. Trace minerals act as catalysts in enzyme production.

## **Ingredient strategy.**

**Acidophilus.** Some strains of *L. acidophilus* have been studied extensively for health effects. Some research has indicated *L. acidophilus* may provide additional health benefits, including improved gastrointestinal function, a boosted immune system, and a decrease in the frequency of vaginal yeast infections. Some people report *L. acidophilus* provides relief from indigestion and diarrhoea. Research has indicated *L. acidophilus* may be helpful in reducing serum cholesterol levels.

As well as killing harmful bacteria, antibiotics taken orally will kill beneficial ones, including *L. acidophilus*. After a therapy that includes antibiotics, patients are occasionally instructed to take an *L. acidophilus* treatment in order to recolonise the gastrointestinal tract. Claims in favor of such treatment include attaining a better digestion, thanks to a recovered normal intestinal flora, and the ensuing reduction of constipation, while others indicate a link between *L. acidophilus* and a possible decrease

in the incidence of certain diseases, including yeast infections in the upper digestive tract (especially those caused by *Candida albicans*), other gastrointestinal disorders, and a weakened immune system.

**Folic acid.** (also known as vitamin B<sub>9</sub> or folacin) and folate (the naturally occurring form), as well as pteroyl-L-glutamic acid and pteroyl-L-glutamate, are forms of the water-soluble vitamin B<sub>9</sub>. Folic acid is itself not biologically active, its biological importance being due to tetrahydrofolate and other derivatives after its conversion to dihydrofolic acid in the liver.

**Vitamin B<sub>9</sub>** (folic acid and folate inclusive) is essential to numerous bodily functions ranging from nucleotide biosynthesis to the remethylation of homocysteine. It is especially important during periods of rapid cell division and growth. Both children and adults require folic acid to produce healthy red blood cells and prevent anaemia. Folic acid is known as concentrated brain food and also plays a role in the production of energy and formation of red blood cells.

There are a number of areas where increased intake and supplementation of folic acid may be beneficial to body function. These include - but are not limited to - heart disease, stroke, cancer, human reproduction, and the use of antifolates. Folate is important for cells and tissues that rapidly divide, depression, memory and mental agility, fertility and macular degeneration.

**Pantothenic Acid** (also called vitamin B<sub>5</sub>) supplementation from calcium pantothenate is a water-soluble vitamin required to sustain life (essential nutrient). Pantothenic acid is needed to form coenzyme-A (CoA), and is critical in the metabolism and synthesis of carbohydrates, proteins, and fats.

**Vitamin Complex: proto-col's defence** has a full B vitamin complex including B1, B2, B3, B5, B6, B9 (folic acid) and B12. B12, only isolated in 1948 from the liver, is the last vitamin to be indentified. It has been found to be effective in the treatment of pernicious anemia. It also plays a major role in the production of amino acid and single carbons in the body. These are essential for normal function in the metabolism of all cells, especially for those of the gastrointestinal tract, bone marrow and nervous system. This is essential in supplemental form for vegetarians, who typically have lower levels of B12 after a few years of excluding meat from their diet.

**Trace minerals** are the chemical elements required by living organisms, in addition to the four elements carbon, hydrogen, nitrogen, and oxygen present in common **organic molecules**. The term "mineral" is **archaic**, since the intent of the definition is to describe ions, not chemical compounds or actual minerals.

Dietitians may recommend that minerals are best supplied by ingesting specific foods rich with the element(s) of interest. Sometimes minerals are ingested as mineral dietary supplements, the most common being iodine in iodised salt.

The dietary focus on minerals derives from an interest in supporting biochemical reactions with the required elemental components. Appropriate intake levels of certain chemical elements are thus required to maintain optimal health. According to some nutritional experts, the requirements are met simply with a conventional balanced diet. However, given the demands of modern lifestyle and the easy availability of fast food, many favour supplementation.

**Vitamin C** is essential daily since it can't be synthesised by the body and can only be found in high dose in fresh fruit and vegetables that are uncooked. It is one of the most unstable vitamins and is easily lost during cooking. Vitamin C has the reputation for preventing and treating the common cold and reducing the effects of some allergy-producing substances.

Vitamin C plays a significant role in maintaining collagen, which is a protein necessary for the formation of connective tissue in skin, ligaments and bone. It plays a role in healing wounds and burns since it facilitates the formation of connective tissue in the scar. Collagen is also required in the cell wall to help with expanding and contracting of the heart as well as in the capillaries which are more fragile.

Vitamin C is a powerful antioxidant which plays a role of scavenging free radical damage in the body. It helps with regenerating substances such as iron and copper in their original forms and helps protect both the brain and spinal cord from free radical damage. Vitamin C is necessary for stimulating the immune system, activating the production of interferon and suppressing virus and infection in the body. These include - but are not limited to - herpes, hepatitis, polio, encephalitis, measles and pneumonia. Vitamin C is also essential for supporting the body's disease-fighting white blood cells; these give protection to the body from bacteria such as tuberculosis, diphtheria, tetanus, and typhoid fever.

Vitamin C has also been known to help with cholesterol, stress, shortness of breath, impaired digestion, hair health, bruising, tooth enamel, gum health, and the healing of wounds and fractures.