



WWW.QNUTRAPHARMA.COM



ESSENTIALS

CELL LIFE

Vitamins, minerals & mixed carotenoids.

Nutritional Information

One Tablet provides:

			**%NRV
Vitamin E (100 i.u.)	67 mg	α-TE	558
†Vitamin C	500 mg		625
†Zinc*	10 mg		100
Manganese*	1 mg		50
†Copper*	500 µg		50
†Selenium*	75 µg		136
†Vitamin A	750 µg		94
Mixed carotenoids	3.13 mg		
(Including Beta Carotene‡, Alpha Carotene, Cryptoxanthin, Zeaxanthin)			
(‡Equiv. to Vitamin A	500 µg	RE	63)
Lutein	6 mg		

RE = Retinol equivalent α-TE = Alpha Tocopherol equivalent *As mineral amino acid blend

**NRV = Nutrient Reference Values †Contributes to the normal functioning of the Immune System

Take one tablet daily with a meal. Swallow with water.



SUMMARY

- Comprehensive antioxidant formula
- Provides optimal amounts of 12 key water and fat soluble nutrients
- Minerals in chelated amino acid form for optimum absorption and utilisation

DESCRIPTION

A comprehensive formula designed to provide optimum levels of nutrients needed for immune support. Vitamins A & C and the minerals zinc, selenium and copper contribute to the normal functioning of the immune system. Vitamins C & E and the minerals zinc and selenium may also help protect body cells against oxidative stress and help minimise the environmental impact on delicate body tissues such as the skin. It is ideal for smokers, heavy exercisers, those living in polluted areas and the over 40's.

WHAT BENEFITS TO HEALTH DO ANTIOXIDANTS PROVIDE?

Protection from oxidative stress: Oxidation damage is caused by oxidants which are created from biological processes, including the production of ATP energy and cellular respiration. Excessive oxidation can damage DNA and increase the likelihood of developing diseases including cardiovascular diseases. Oxidants must be balanced out with dietary antioxidants for equilibrium to be maintained in the body. Antioxidants counteract oxidation and protect cells from damage.

Athletes: Oxidation occurs at an increased rate in athletes which may lead to damage in the long term for super endurance athletes¹. Additional antioxidants are required to protect against long term damage which includes cardiovascular diseases.

Smokers: Smoking increases the body's requirement for antioxidants. Oxidative changes occur in the lungs of smokers as well as throughout the rest of the body². Smokers have a higher requirement for antioxidant nutrients. They also require higher levels of detoxification supportive nutrients. Cigarette inhalations are detoxified through the enzyme Cyp1A².

Polluted areas: Living in polluted areas such as a busy city or where exposure to pesticides and herbicides occurs frequently puts additional stress on the body. The liver requires extra nutrients and antioxidants to process these.

Immunity: It is essential for the immune system that oxidants are kept in check to prevent an excessive amount of reactive oxygen species (ROS) from damaging the immune cells³. One study reported that the antioxidant vitamin C enhances glutathione recovery after an oxidative challenge⁴, protecting the body from oxidative damage even further.

Increasing age: With age, immune system capacity decreases and requires additional support⁵. Antioxidants enhance natural killer cell activity in the elderly by providing antioxidant protection to the immune cells.

Vitamin E	Vitamin E is the main fat-soluble antioxidant in human plasma. Vitamin E helps to preserve the function of fats in the cell membranes which are sensitive to oxidation.
Vitamin C	Vitamin C is another powerful antioxidant within the body. Vitamin C works as an antioxidant in its own right, as well as regenerating the antioxidant capability of vitamin E ² . Vitamin C requirement is considerably higher for smokers. Each cigarette uses up around 25mg of vitamin C from the body. Vitamin C is also needed for phase 2 liver detoxification.
Zinc	Zinc is an essential part of superoxide dismutase which scavenges reactive oxygen species (ROS). Zinc is protective against liver specific prooxidants ⁶ . Key T cell signalling molecules (IL-2-induced ERK) are activated in response to intracellular zinc, as well as T cell proliferation ⁶ . This is a key mechanism in the relationship between zinc and the immune system and resistance against pathogens, particularly viral pathogens ⁷ .

Manganese	Manganese forms a major part of manganese super oxide dismutase (MnSOD). This is a potent antioxidant. MnSOD helps to protect nerve cells from damage and apoptosis. It also protects them from ischemic damage ⁸ .
Copper	Copper works in balance with zinc. It is required for many enzymatic processes, including the transport of superoxide dismutase 1(SOD1) ⁹ .
Selenium	<p>Selenium aids with the absorption of vitamin E and is needed to make antioxidant selenoproteins. Selenium also works with sulphur to ameliorate oxidation damage¹⁰.</p> <p>Selenium is essential for optimal immune responses, both innate and adaptive responses. A selenium deficiency results in lymphocytes less able to proliferate when necessary. The immune proteins IgM, IgG and IgA are decreased in selenium deficiency states.</p> <p>Neutrophils produce free radicals as part of their killing method of microbes. This system requires a delicate balance between producing free radicals and having the antioxidants to protect the neutrophils themselves. Selenium deficient neutrophils are less able to kill pathogens, and an increase regulates their ability to kill pathogenic organisms¹¹.</p>
Vitamin A	Vitamin A is essential for the immune system where it induces TH2 cell responses. Vitamin A also potentiates T regulatory cell development. It also aids the differentiation of B cells which secrete IgA in the gut ¹² . Immunity decreases with age, and slightly decreases after intensive exercise.
Alpha carotene & Beta carotene	Alpha and beta carotene are carotenoids which convert into vitamin A in the body. Alpha and beta carotene are antioxidants that help to reduce free radical damage to cells.
Cryptoxanthin	Cryptoxanthin is a dietary carotenoid which protects the cells from oxidative damage. ⁴
Zeaxanthin	Zeaxanthin is a carotenoid found in dark green leafy vegetables and acts as an antioxidant which works synergistically with lutein to decrease oxidative damage.
Lutein	Lutein is a xanthophyll carotenoid with antioxidant properties. Lutein protects nerve cells from damage at times of inflammation ¹³ .

WHY ARE AMINO ACID CHELATED MINERALS SUPERIOR?

Minerals chelated to amino acids have a greater absorbency within the gut compared to other forms of the minerals. Each mineral has a different stability within the gut and when joined to various compounds. Inorganic mineral forms such as oxides, sulphates and carbonates are not used effectively by the body. They are also disassociated from each other one in the presence of stomach acid and can cause irritation to the gut. Amino acid chelated minerals however have a neutral charge, and an increased bond to each other allowing them stay intact as they move further into the gut and bind to specific receptor sites, optimising mineral absorption.

ARE THERE ANY PRECAUTIONS BEFORE OR WHILE TAKING CELL LIFE?

Cell Life is intended exclusively for adults and is not recommended for:

- Children
- Pregnant and breastfeeding women

FEATURES

- Comprehensive antioxidant formula
- Provides optimal amounts of 12 key water and fat soluble nutrients
- Minerals in chelated amino acid form for optimum absorption and utilisation
- Vegan
- Gluten free
- Dairy free

HEALTH NEEDS



EVERYDAY HEALTH
& WELLBEING



DETOX & CELL
PROTECTION

SCIENTIFIC REFERENCES

1. Sports Medicine. 2006; 36:5:429-441
2. N Engl J Med 1995; 332:1198-1203
3. J Biol Chem. 2007 May 25;282(21):15506-15. Epub 2007 Apr 2
4. LL Farmico. 2001;56:9: 683-687)
5. The American Journal of Clinical Nutrition.1996; 64: 5:772-777
6. Free radical Biology and Medicine. 1990; 8:3: 281-291
7. Eur J Immunol. 2010 May;40(5):1496-503
8. Journal of Neuroscience. 1998, 18 (2) 687-697
9. Science. 1999; 284;5415: 805-808
10. Cell Biochemistry and Biophysics. 2009; 55:1-23
11. The Journal of Nutrition. 2003;113(5):1457s-1459s
12. Nature Reviews Immunology. 2008; 8:685-698
13. Retinal Cell Biology. 2009; 50:3

