Mitochron®

PRODUCT INFORMATION

Mitochron® is a chronobiological formulation of micronutrients designed to supplement all those vital substances that are lacking in the diet or which are required in greater quantities due to certain lifestyles, in order to support normal energy metabolism, normal psychological function and normal nervous system function.

Fundamentals:

The human body does not produce the energy it needs to perform its many functions in just one specific organ, but in almost every one of its approximately 70 billion cells. The mitochondria are the 'powerhouses' of our cells and are key to generating our body's vital energy.
It is highly likely that there is a link between the number, size and efficiency of cellular mitochondria and the constant stress experienced by millions of young people and adults today. Feelings of weakness are the first signs of mitochondrial dysfunction. They can be caused by poor diet, lack of sleep, and physical and mental overload.

The main function of mitochondria is to produce energy through chemical reactions in which fatty acids and glucose are converted into a usable and transportable form of energy called ATP. The raw material required to produce ATP is obtained from food or from the breakdown of available tissue, such as stored fats. For this to work, the food we eat must first be broken down into simpler molecules – such as carbohydrates, proteins and fats – before it can be processed.
The oxygen in the air we breathe causes these molecules to oxidise within the cells, whilst the mitochondria provide energy in the form of ATP molecules. These highly reactive processes repeat themselves extremely rapidly. The total amount of ATP produced in a single day often exceeds a person's body weight. As soon as a mitochondrion is no longer fully functional, the affected cell becomes more susceptible to various forms of stress, leading to a feeling of tiredness and lethargy.
When it comes to increasing energy production within the cell, the coenzyme NADH is a key molecule in the production of ATP, and is therefore a crucial factor. Other helpful substances include vitamins B6, C and E, as well as the amino acids L-carnitine and L-arginine. NADH is found in all foods, whether of animal or plant origin, but is particularly abundant in meat, fish and green vegetables.

<u>Other nutrients that can have a positive effect on energy levels and mitochondrial function include, amongst others:</u>

Pyrroloquinoline quinone disodium salt – PQQ: PQQ is found in numerous foods, such as certain types of fruit and vegetables, soya products and tea. In fact, the highest levels of this nutrient are found in natto (fermented soya beans). The importance of PQQ for humans was only discovered in 2003. As well as having regulatory effects on general metabolism, muscle function and the immune system, it can also enhance the effects of many other vitamins.
The main dietary source of **L-carnitine** is meat and, to a lesser extent, milk and dairy products. L-carnitine can help transport substances required for energy production into the mitochondria.

L-arginine is found in foods such as meat, nuts and pulses. Pumpkin seeds are particularly rich in this nutrient. It can enhance the body's own production of the growth hormone HGH, which helps build new muscle mass.

Omega-3 fatty acids are found in many types of fish, such as tuna, mackerel, salmon and trout, as well as in certain cooking oils, nuts and seeds. As these are unstable chemical compounds, their effectiveness is protected by phytochemicals such as Ginkgo biloba and the main active ingredients in red wine, resveratrol and quercetin. Furthermore, quercetin and other plant compounds can help to support the formation of new mitochondria. Onions in particular, but also kale and apples, are good sources of quercetin.

Co-enzyme Q10 is found primarily in beef, chicken, mutton and lamb, fish and eggs. It plays an important role in the production of sufficient energy and can protect the mitochondria from harmful influences.

The bioactivity of many of the nutrients mentioned is further enhanced by vitamins B1, B2 and B12. B vitamins are found in many animal and plant-based foods such as fish, meat, eggs, nuts and pulses.

If dietary intake of these nutrients is insufficient, or if there is an increased requirement, they can be supplemented through specialised dietary supplements.
Some of these nutrients are better absorbed in the morning and help energise the body, whilst others are better absorbed in the evening and support recovery. Chronobiologically formulated products take this into account.

Ingredients:

AM capsule (morning)	per capsule	Daily dose
PQQ pyrroloquinoline quinone disodium salt	1 mg	2 mg
NADH® (Panmol)	5 mg	10 mg
L-carnitine	100 mg	200 mg
L-Arginine HCl	50 mg	100 mg
Vitamin C	75 mg	150 mg
Vitamin E (as D-alpha-tocopheryl acid succinate)	17.5 mg	35 mg
Vitamin B6	5 mg	10 mg
Omega-3 complex (contains 13.5 mg EPA, 9 mg DHA)	22.5 mg	45 mg

Other ingredients:

microcrystalline cellulose, stearic acid, magnesium stearate.

PM capsule (evening)	per capsule	Daily dose
PQQ pyrroloquinoline quinone disodium salt	1 mg	2 mg
Co-enzyme Q10	100 mg	200 mg
L-glutathione	25 mg	50 mg
Quercetin extract	25 mg	50 mg
Resveratrol	50 mg	100 mg
Ginkgo biloba leaf extract	60 mg	120 mg
Zinc (Zn)	7.5 mg	15 mg
Biotin	250 mcg	500 mcg
Vitamin B1	1 mg	2 mg
Vitamin B2	7.5 mg	15 mg
Vitamin B12	5 mcg	10 mcg
Omega-3 complex (contains 13.5 mg EPA, 9 mg DHA)	22.5 mg	45 mg

Other ingredients:

Rice flour, magnesium stearate.

Recommended intake:

Normally, take 2 AM capsules (yellow) in the morning and 2 PM capsules (blue) in the evening with plenty of liquid.

The product is gluten-free, lactose-free and non-GMO.
Vegetarian capsule shell.
The product contains high-quality omega-3 fatty acids in both the AM and PM capsules.

Notes:

Food supplements are not a substitute for a balanced and varied diet or a healthy lifestyle.
Do not exceed the recommended daily intake. Keep out of reach of children. Store in a cool, dry place away from direct light at room temperature. The information published here does not constitute medical claims and is not intended as an invitation or encouragement to self-medicate. Whilst some of the statements made above regarding individual micronutrients are derived from scientific studies, they have been classified by official authorities, such as the European Food Safety Authority (EFSA), as 'not yet sufficiently substantiated', meaning that no positive effects can be confirmed.
The product described here has not been conclusively assessed by either the Food and Drug Administration (FDA; USA) or the European Food Safety Authority (EFSA; Europe).
This product is not intended to diagnose, treat, cure or prevent any disease.
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Manufacturer

VitaBasix®

by LHP Inc.
www.vitabasix.com | info@vitabasix.com