

Mito Pro

Endurance, Mood and Fertility Support

Orthoplex White Mito Pro has been designed for the stressed, overworked male patient who needs to function at his absolute best. This patient wants to take control of their life and support optimum brain function, restore energy levels, and ensure an effective stress response. It is also the perfect formula for fertility, sexual health and stamina.

Orthoplex White Mito Pro uses a powerful combination of Acetyl-L-carnitine and L-carnitine, along with Coenzyme Q10, Selenium and Zinc to provide maximum support for sperm health, energy, positive mood and mental sharpness. The formulation innovatively combines the full suite of B vitamins with high-dose Pantothenic acid and Magnesium to maximise a healthy response to high stress situations. The addition of a boutique quality *Turnera diffusa* extract provides a rounded therapeutic approach by supporting stamina, endurance, sexual health and mood.

- ✓ Clinically trialled doses of Acetyl-L-carnitine and L-carnitine for maximum fertility support
- ✓ Vegan friendly formula
- ✓ Targets energy, stamina and mitochondrial function
- ✓ Supports mental acuity, stress response and healthy mood balance

Indications

- Supports sperm production, motility and overall sperm health
- Traditionally used in Western herbal medicine to promote healthy libido
- Supports energy and healthy mood balance
- Traditionally used in Western herbal medicine to support physical endurance

Excipients

EVNoIMax, maltodextrin, glycine, malic acid, *Stevia rebaudiana* leaf extract, trusil natural lemon flavour, colloidal anhydrous silica.

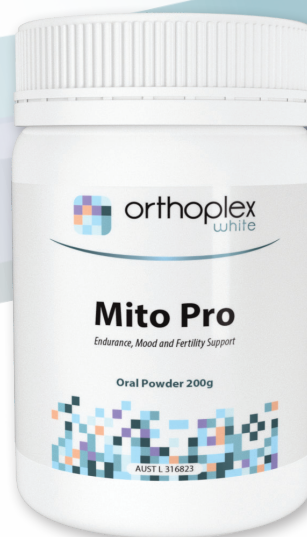
Warnings

This medicine contains selenium which is toxic in high doses. A daily dose of 150 micrograms for adults of selenium from dietary supplements should not be exceeded. Do not take while on warfarin therapy without medical advice. Vitamin or mineral supplements should not replace a balanced diet. If symptoms persist consult your healthcare practitioner.

Contraindications

Acenocoumarol, Cephalixin, Chloramphenicol
Pregnancy & lactation not advised

Information taken from Natural Medicines Database and accurate as of September 2019



- ✓ Gluten Free
- ✓ Dairy Free
- ✓ Egg Free
- ✓ Soy Protein Free
- ✓ Vegan
- ✓ Vegetarian

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Pack Size: 200g oral powder

Adult Dose: Mix 1 scoop (1 level included scoop contains approx. 8g) into 250mL of water and consume immediately. Take once daily, or as recommended by your registered healthcare practitioner.

Storage: Store below 25°C in a cool, dry place away from sunlight.



Full disclosure of excipients in every formulation

Each 8g (1 level included scoop) Contains

Levocarnitine	2g
Acetyl levocarnitine hydrochloride	1g
Ubidecarenone (Coenzyme Q10)	100mg
Ascorbic acid	1g
Magnesium (as Magnesium citrate)	310mg
Alpha lipoic acid	50mg
Zinc (as Zinc citrate dihydrate)	25mg
Selenium (as Selenomethionine)	100mcg
Palm tocotrienols complex (+EVNoIMax™)	5mg
Thiamine nitrate	100mg
Riboflavin sodium phosphate	20mg
Nicotinamide	50mg
Calcium pantothenate	150mg
Pyridoxine hydrochloride	20mg
Pyridoxal 5-phosphate monohydrate	10mg
Biotin	500mcg
Calcium folinate	216mcg
Mecobalamin (Co-methylcobalamin)	200mcg
<i>Turnera diffusa</i> leaf (Dry Herb Equiv)	1.5g



+EVNoIMax™ is a trademark of ExcelVite Inc and protected by US Patent

Please note Orthoplex White products can only be purchased if you are an Orthoplex White approved customer. This medicine may not be right for you. Read the warnings before purchase. If symptoms persist talk to your health professional.



www.bioconcepts.com.au



Technical Information

Supports sperm production, motility and overall sperm health

Carnitine is present in the highest concentrations in human sperm and seminal fluid, with levels ten times higher in the epididymis than any other part of the body. Levels increase during sperm maturation in the epididymis, playing a role in stimulating sperm motility. This stimulatory effect appears to require the conversion of L-carnitine (LC) to Acetyl-L-carnitine (ALC).¹ In clinical trials, supplementation with LC or LC plus ALC led to improvements in sperm motility in those with low motility, and increased sperm counts in men with low sperm count, poor motility and abnormal morphology.¹

Sperm rely on beta oxidation for energy, and it is proposed that the high concentration of LC in the epididymis is to ensure the supply of ATP. Human trials have found Carnitine therapy (2-3g daily) to be effective in increasing semen quality, sperm concentration and total and forward sperm motility especially in groups with lower baseline levels.² One trial reported that improvements in sperm motility were only observed in the presence of normal mitochondrial function, determined by phospholipid hydroperoxide glutathione peroxidase levels.²

A review of clinical trials found the combination of LC and ALC to be more effective than either nutrient on its own. Supplementing LC (2 grams daily) combined with ALC (1 gram daily) in men with poor sperm parameters, over three to six months of treatment improved sperm motility, sperm concentrations, and sperm volume. The results were best in men with lower values at baseline.³

The benefits of LC may also be related to reduced inflammatory cytokines and improved antioxidant effects. Male germ line cells have a low number of antioxidant molecules and enzymes due to their lack of cytoplasm and have a special polyunsaturated fatty acid (PUFA) structure in the membrane.³ This makes them particularly susceptible to peroxidation and damage. Since the concentration of Carnitine in the epididymis is high, Carnitine may act as a scavenger for reactive oxygen species (ROS), reducing free radical induced oxidative stress, and minimising pathological disorders of sperm, such as ATP depletion leading to insufficient axonemal phosphorylation (required for motility), lipid peroxidation as well as loss of viability.⁴

Carnitine studies have found benefits for female reproductive health – LC specifically for aiding β -oxidation in oocytes, thus improving energy supplies and enhancing oocyte quality. ALC is more involved in preventing free radical-induced DNA damage.⁴

Stress plays a fundamental role in reproductive health in men as its presence has been found to reduce luteinizing hormone and testosterone pulsing, leading to reduced spermatogenesis and sperm quality.⁵

Vitamin C is present in the testes, providing protection from oxidative damage. In its active (reduced) state, it also plays a role in spermatogenesis.⁵ Vitamin C can remain in its reduced form due to the presence of the GSH-dependent dehydroascorbate reductase which is abundant in the testes.⁵

Several randomised double-blind placebo controlled trials in males with idiopathic low sperm count, low motility and morphology taking 200-300mg CoQ10 for 3-6 months showed improvement in sperm health parameters, antioxidant levels and seminal levels of CoQ10. The greatest response was seen in those with the lowest baseline CoQ10 and sperm motility levels.²

Selenium is required for testosterone synthesis, normal sperm maturation and sperm motility. Human clinical studies have confirmed the association and identified Selenium as able to increase sperm motility.² Zinc is required for the maturation of sperm.²

Traditionally used in Western herbal medicine to promote healthy libido

Damiana has been used as an aphrodisiac, and testostermimetic. Damiana is a folklore restorative remedy for curing masculine insufficiency. In Germany, the leaves of the plant are used for its tonic action on the hormonal and central nervous system to relieve nervous debility.⁶ It is thought the prosexual effects are exerted via the nitric oxide pathway and its anxiolytic-like effects.²

Supports healthy mood balance

A large systematic review including 12 randomised controlled trials with almost 800 participants found ALC to be as effective as conventional medical therapy to aid mood balance at 2g daily. It was also more effective than placebo with significantly reduced side effects compared to conventional therapy.⁷ Many human clinical trials also show a link between Zinc deficiency and altered mood, with supplementation resulting in mood balance.⁸ Zinc's role is linked to its action on brain-derived neurotropic factor (BDNF). Zinc interacts with BDNF levels and its deficiency can lead to reduced neurogenesis and altered mood.⁸

Damiana has traditionally been used in Western herbal medicine aid mood balance and general mental wellbeing.⁹

Traditionally used in Western herbal medicine to support physical endurance

Damiana preparations are used for strengthening and stimulation during exertion (overwork), also for boosting and maintaining mental and physical capacity.¹⁰

References available on request