

Food for special medical purposes for the dietary management of male fertility issues related to limited semen quality

Micronutrient combination with N-acetyl-L-cysteine, citrulline and highly dosed folic acid. For coverage of the increased demand for cysteine, citrulline, vitamins and minerals.

Fertilovit® M^{plus} is a food for special medical purposes and is used for the dietary management of male fertility issues related to limited semen quality. In men with fertility issues related to limited semen quality, impairment of spermatogenesis is frequently linked to increased oxidative stress. This leads to a specifically increased demand for vitamins, minerals and other substances. N-acetyl-L-cysteine, citrulline, zinc, selenium and folic acid in combination with other nutrients cover this demand, thus supporting men with impaired semen quality.

Impaired semen quality and unwanted childlessness

As has been shown by a considerable number of studies, male fertility is declining all over the world. One in ten couples experience problems conceiving and in 30 % these can be assigned to male fertility issues. Assisted reproductive techniques (ART) offer a range of possibilities to support people with fertility issues. Clomiphene cycles, insemination, IVF or ICSI are very effective to support the fusion of oocyte and spermatozoa. However, sperms with severe oxidative damage will substantially lower success rates of any fertility treatment.

Diminished sperm count and quality can be caused by a variety of factors. Pollution, hormones in the environment, poor eating habits and others have been claimed to be responsible. More and more research has focused on oxidative stress and its detrimental effects on sperm health.

Oxidative stress occurs in our bodies as a result of exposure to environmental factors such as smoking, alcohol consumption, pollution, pesticides and other chemicals, stress and/or trauma. The term oxidative stress refers to damage that is inflicted on the body's cells and tissues by reactive oxygen species. Oocytes and spermatozoa are particularly susceptible to this kind of damage. Normally the body has its own powerful range of defence mechanisms, the body's own antioxidants, however, these are not always available in sufficient quantity. Since spermatozoa are continually formed anew, sperm count and sperm quality can be positively influenced by a disease-adapted diet.

Powerful antioxidant N-acetyl-L-cysteine

N-acetyl-L-cysteine represents an optimal source of the protein component cysteine. This amino acid is needed for the synthesis of glutathione which is the body's most important antioxidant. Since oxidative stress is a key factor in triggering sperm damage, there is an increased demand for cysteine. In comparison to glutathione, its precursor N-acetyl-L-cysteine exhibits a better oral bioavailability and is converted as required into the antioxidant active form after intake.

Antioxidant vitamin C with sustained release

Vitamin C is the main antioxidant in the seminal plasma. Since it is quickly eliminated from the body, the majority of the ingested vitamin C usually cannot exert its positive effects. Hence **Fertilovit® M^{plus}** contains vitamin C with sustained release, so patients benefit from a continuous release and a longer effect duration.

L-arginine precursor L-citrulline

The amino acid arginine is necessary for normal spermatogenesis. Arginine is converted into the polyamines spermine and spermidine, which are found in high concentrations in the seminal fluid, as well as the protamines which are necessary for packing and stabilization of the sperm DNA. However, arginine exhibits a low oral bioavailability. In contrast, citrulline, also an amino acid and precursor of arginine, has a very good oral bioavailability. Citrulline is metabolized to arginine in the body in line with demand and thus used in an indirect, but efficient way for the synthesis of spermine, spermidine and the protamines. Furthermore, after

conversion into arginine and via the mediator nitric oxide (NO), citrulline can lead to improved erectile function.

Zinc and selenium

Men with impaired semen quality have an increased risk for deficiencies in selenium and zinc.

Zinc is an essential component of spermatocytes. If the body lacks zinc, sperm production is significantly decreased. Also sperm motility is decreased since zinc contributes to the binding of the sperm head to the sperm tail.

Selenium promotes the protection of sperm DNA in two ways: by the stimulation of protamine packaging of the sperm DNA as well as part of antioxidant enzymes.

Folic acid

Like zinc and selenium, folic acid promotes protamine packaging of the sperm DNA. A deficit in folic acid intake is associated with a significantly higher risk for sperm DNA damage.

Dietary management with long-term effect

The long-term effect of **Fertilovit® M^{plus}** represents a central aspect of the dietary management of male fertility issues related to limited semen quality.

By supplying precursors with optimal bioavailability, which are converted into the active forms in line with demand, the usage of vitamin C with sustained release as well as the division of the daily dosage into two capsules, a protective long-term effect is ensured.

The preparation has been tested in one of Europe's biggest ART clinics. Men who wish to conceive are recommended to take it from at least three months prior to conception.

Please visit www.fertilovit.com to learn more!



Average nutritional values	Per 100 g	Per daily dose (2 capsules)
Energy	1,208 kJ (288 kcal)	19 kJ (4.6 kcal)
Fat	4.8 g	0 g
of which saturates	4.1 g	0 g
Carbohydrate	1.2 g	0 g
of which sugars	0.3 g	0 g
Protein	45.6 g	0.4 g
L-citrulline	18,750 mg	300 mg
Glutathione	3,125 mg	50 mg
N-acetyl-L-cysteine	3,125 mg	50 mg
Salt	0 g	0 g
Vitamin C	6,250 mg	100 mg
Vitamin E	6,250 mg	100 mg
Folic acid	31,250 µg	500 µg
Zinc	1,563 mg	25 mg
Selenium	6,250 µg	100 µg
Sodium	3.8 mg	0.03 mg
L-carnitine	18,750 mg	300 mg
Coenzyme Q10	938 mg	15 mg
Lycopene	250 mg	4 mg

Fertilovit® M^{plus} is suitable for vegans, gluten-free and lactose-free.

Administration form:

Capsules

Packaging sizes:

90 capsules, 45 daily servings
60 capsules, One month pack

Net quantities:

72 g
48 g

Ingredients

L-carnitine-L-tartrate, L-citrulline, hydroxypropyl methyl cellulose, D-alpha-tocopheryl acetate, L-ascorbic acid, anti-caking agent magnesium salts of fatty acids, N-acetyl-L-cysteine, L-glutathione, zinc oxide, coenzyme Q10, lycopene, pteroylmonoglutamic acid, sodium selenite, colour iron oxides and hydroxides, glazing agent ethyl cellulose.

Application:

For the dietary management of male fertility issues related to limited semen quality.

Please note:

Fertilovit® M^{plus} is a nutritionally incomplete food for special medical purposes. The product must be used under medical supervision. A varied and balanced diet as well as a healthy lifestyle are important. Please store out of reach of young children.

The content of vitamin E deviates from the maximum quantity according to regulation (EU) 2016/128, since this is necessary for the nutritional medical purpose of Fertilovit® M^{plus}.

Signature:

Please take one capsule with plenty of water twice daily, preferentially in the morning and in the evening.

Best before end:

The best before date is printed on the packaging.

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Made in Germany

Sales and distribution:

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