Claims

1. Combination composition comprising as active ingredients L-carnitine or a salt thereof, acetyl L-carnitine or a salt thereof, vitamin B9 (folic Acid), vitamin A, vitamin B12, vitamin B5 (pantothenic acid), vitamin B6 (pyridoxine), arginine, vitamin C, vitamin E (α-Tocopherol), selenium, zinc, copper, iron, vitamin D and N-acetyl cysteine, and optionally one or more pharmaceutically acceptable excipients.

2. The combination composition of claim 1, which comprises:

- L-carnitine fumarate, in a dose of from 2589 to 287,6 mg (corresponding to 1500-166.6 mg L-carnitine inner salt), the preferred doses is from 1726 to 431,5 mg (corresponding to 1000-250 mg of L-carnitine inner salt), the most preferred dose is 863 mg (corresponding to 500 mg of L-carnitine inner salt);

- Acetyl L-carnitine in a dose of from 750 to 25.0 mg, the preferred doses is from 500 to 125 mg, the most preferred dose is 250 mg;

- folic acid (vitamin B9) in a dose of from 600 to 66.6 mcg, the preferred doses is from 400 to 100 mcg, the most preferred dose is 200 mcg;

- vitamin A from beta carotene in a dose of from 2400 to 266.6 mcg, the preferred doses is from 1600 to 400 mcg, the most preferred dose is 800 mcg;

- vitamin B12 in a dose of from 7.5 to 0.833 mcg, the preferred doses is from 5.0 to 1.250 mcg, the most preferred dose is 2.5 mcg;

- vitamin B5 (pantothenic) in a dose of from 18.0 to 2.0 mg, the preferred doses is from 12.0 to 3.0 mg, the most preferred dose is 6 mg;

- vitamin B6 (pyridoxine) in a dose of from 6.0 to 0.666 mg, the preferred doses is from 4.0 to 1.0 mg, the most preferred dose is 2 mg;

- arginine in a dose of from 1500 to 166.6 mg, the preferred doses is from 1000.0 to 250.0 mg, the most preferred dose is 500 mg;

- vitamin C in a dose of from 270.0 to 30.0 mg, the preferred doses is from 180.0 to 45.0 mg, the most preferred dose is 90 mg;

- vitamin E (α-tocopherolo) in a dose of from 90.0 to 10.0 mg, the preferred doses is from 60.0 to 15.0 mg, the most preferred dose is 30 mg;

- selenium in a dose of from 150 to 16.6 mcg, the preferred doses is from 100.0 to 25.0 mcg, the most preferred dose is 50 mcg;

- zinc in a dose of from 30.0 to 3.33 mg, the preferred doses is from 20.0 to 5.0 mg, the most preferred dose is 10 mg;

- copper in a dose of from 4.95 to 0.55 mg, the preferred doses is from 3.3 to 0.825 mg, the most preferred dose is 1.65 mg;

- iron in a dose of from 42.0 to 4.66 mg, the preferred doses is from 28.0 to 7.0 mg, the most preferred dose is 14 mg;

- vitamin D in a dose of from 15.0 to 1.66 mcg, the preferred doses is from 10.00 to 2.50 mcg, the most preferred dose is 5 mcg;

- N-acetyl cysteine in a dose of from 150 to 16.6 mg, the preferred doses is from 100.0 to 25.0 mg, the most preferred dose is 50 mg.

3. The combination composition of claim 1 or 2, further comprising co-enzymes, mineral substances, antioxidants, vitamins, and agents useful for promoting female fertility.

4. Combination composition of one of claims 1 to 3, in which the salt of L-carnitine or acetyl L-carnitine is selected from the group consisting of: chloride, bromide, orotate, aspartate, acid aspartate, acid citrate, magnesium citrate, phosphate, acid phosphate, fumarate and acid fumarate, magnesium fumarate, lactate, maleate and acid maleate, oxalate, acid oxalate, pamoate, acid pamoate, sulphate, acid sulphate, glucose phosphate, tartrate and acid tartrate, glycerophosphate, mucate, magnesium tartrate, 2-amino-ethanesulphonate, magnesium 2-amino-ethanesulphonate, methanesulphonate, choline tartrate, trichloroacetate, or trifluoroacetate.

5. The combination composition of one of claims 1 to 4, for use as a dietary supplement.

6. The combination composition of claim 1, for use in a method of promoting female fertility.

7. The combination composition of one of claims 1 to 4, for use in a method of promoting female fertility in a drug and/or hormonal stimulation.

8. The combination composition of one of claims 1 to 4, for use in a method of promoting female fertility during drug and/or hormonal stimulation for supporting ovulation.

9. The combination composition of one of claims 1 to 4, for use in a method of promoting female fertility during drug and/or hormonal stimulation for promoting oocyte fertilization.

10. The combination composition of one of claims 1 to 4, for use in a method of promoting female fertility during drug and/or hormonal stimulation for promoting oocyte fertilization in vivo.

11. The combination composition of one of claims 1 to 4, for use in a method of promoting female fertility during drug and/or hormonal stimulation for promoting oocyte fertilization in vitro.

12. The combination composition of one of claims 1 to 4, for use in a method of reducing side effects due to the use of hormones and/or drugs useful for promoting female fertility.

13. The combination composition of one of claims 1 to 4 or for the use of any one of claims 5 to 12, wherein the composition is for oral administration.

14. The combination composition for the use of claim 13, in which the administration is started at least a month before the beginning of the drug and/or hormonal stimulation.

15. The combination composition for the use of claim 13, in which the administration is started at least a week before the beginning of the drug and/or hormonal stimulation.