Supplementary table 1. Treatment group composition and dose

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| **Capsule/component** | **Total/capsule** | **Total dose/day** | |
| *Group 1: combination treatment*  Capsule 1: N-acetylcysteine  Capsule 2: acetyl-L-carnitine  Capsule 3: Ubiquinone (coenzyme Q10)  d-alpha-Tocopherol (vitamin E)  Alpha-lipoic acid  Magnesium  Capsule 4: Ubidecarenone (coenzyme Q10)  d-alpha-Tocopherol (vitamin E)  Thiamine hydrochloride  Nicotinamide (vitamin B3)  Calcium pantothenate (equiv. pantothenic acid/vitamin B5)  Pyridoxine hydrochloride (equiv. pyridoxine/vitamin B6)  Folic acid (vitamin B9)  Cyanocobalamin (vitamin B12)  Calcium ascorbate dihydrate (equiv. ascorbic acid/vitamin C)  Retinyl palmitate (equiv. vitamin A)  Cholecalciferol (equiv. 250 IU vitamin D3)  Biotin (vitamin H) |  | | |
| 500 mg  500 mg  75 mg\*  3.36 mg (5 IU) \*  75 mg  (as orotate 500 mg) 32 mg  25 mg\*  16.8 mg (25 IU) \*  50mg  100 mg  50 mg (45 mg)  50 mg (41.1 mg)  400 mg  400 mg  121 mg (100 mg)  450 mgRE (1,500 IU)  6.25 mg (250 IU)  300mg | 2,000 mg  1,000 mg  200 mg  40.32 mg (60 IU)  150 mg  64 mg  100 mg  200 mg  100 mg (90 mg)  100 mg (82.2 mg)  800 mg  800 mg  242 mg (200 mg)  900 mgRE (3,000 IU)  12.5 mg (500 IU)  600mg | |
| *Group 2: N-acetylcysteine group*  Capsule 1: N-acetylcysteine  Capsules 5, 6, 7: equivalent placebos of Capsules 2, 3, 4 |  | |  |
| 500 mg | 2,000 mg | |
| *Group 3: Placebo group*  Capsule 8: equivalent placebo of Capsule 1  Capsules 5, 6, 7: equivalent placebos of Capsules 2, 3, 4 |  |  | |

mgRE = micrograms of retinol equivalent.

\* Total dose of ubidecarenone is 200 mg and d-alpha-tocopherol is 40.32 mg (60 IU), combining capsules 4 and 5.