

Effects of spirulina and wakame consumption on intestinal cholesterol absorption and serum lipid concentrations in non-hypercholesterolemic men and women

- Supplemental Materials -

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SUPPLEMENTAL TABLES

Supplemental table 1: Sterol composition of the spirulina and wakame supplements as determined by gas-chromatography flame-ionization-detection (GC-FID) by Bonn University

| | Spirulina | | Wakame | |
|-----------------------|-----------|--------|--------|--------|
| | ng/mg | µg/day | ng/mg | µg/day |
| Cholesterol | 7.8 | 37.4 | - | - |
| 24-methyl cholesterol | 7.7 | 37.0 | 65.1 | 312.5 |
| Campesterol | 4.9 | 23.5 | - | - |
| Sitosterol | 19.3 | 92.6 | - | - |
| Stigmasterol | 11.5 | 55.2 | - | - |
| Fucosterol | - | | 476.6 | 2287.7 |
| 24 R/S saringosterol | - | | 17.4 | 83.5 |

Supplemental table 2: Lipid concentrations after spirulina, wakame and placebo intake in the 50% highest absorbers (N = 17) and the 50% lowest absorbers (N = 18)

| | Highest cholesterol absorbers | | | | Lowest cholesterol absorbers | | | |
|---------------------------------------|-------------------------------|-------------|-------------|----------------|------------------------------|-------------|-------------|----------------|
| | Spirulina | Wakame | Placebo | P ^a | Spirulina | Wakame | Placebo | P ^a |
| Total cholesterol (mmol/L) | 4.28 ± 0.76 | 4.42 ± 0.89 | 4.48 ± 0.84 | 0.269 | 5.13 ± 1.04 | 5.24 ± 1.02 | 5.11 ± 1.26 | 0.645 |
| LDL cholesterol (mmol/L) ^b | 2.24 ± 0.57 | 2.33 ± 0.75 | 2.34 ± 0.73 | 0.575 | 3.26 ± 0.83 | 3.24 ± 0.92 | 3.21 ± 1.01 | 0.871 |
| HDL cholesterol (mmol/L) | 1.65 ± 0.42 | 1.65 ± 0.43 | 1.72 ± 0.51 | 0.429 | 1.43 ± 0.39 | 1.52 ± 0.36 | 1.42 ± 0.41 | 0.119 |
| Triacylglycerol (mmol/L) | 0.86 ± 0.34 | 0.96 ± 0.46 | 0.93 ± 0.35 | 0.422 | 1.16 ± 0.46 | 1.07 ± 0.48 | 1.03 ± 0.39 | 0.488 |

^a P-value for the treatment effect

^b N = 17 in the 'lowest cholesterol absorbers' for LDL cholesterol