**SUPPLEMENTARY DATA for**

# Nutritional Potential and Toxicological Evaluation of *Tetraselmis* sp. CTP4 Microalgal Biomass Produced in Industrial Photobioreactors

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Table S1 - Fatty acid profile of *Tetraselmis* sp. CTP4 grown in an industrial production facility. Values from the literature for *Tetraselmis chui*, *Tetraselmis suecica* and *Chlorella* sp. are also presented. Values represent the mean % of total fatty acids and corresponding standard deviation ($n = 3$).

| FAME | *Tetraselmis* sp. CTP4 | *Tetraselmis chui*[1] | *Tetraselmis suecica*[2] | *Chlorella* sp.[1] |
|---|---|---|---|---|
| C14:0 | 0.91 ± 0.01 | 0.2 | 1.3 | 0.6 |
| C15:0 | n.d. | n.d. | n.d. | 0.5 |
| C16:0 | 20.72 ± 1.18 | 19.9 | 16.0 | 21.8 |
| C17:0 | 1.68 ± 0.03 | n.d. | n.d. | n.d. |
| C18:0 | 2.09 ± 0.02 | 0.3 | 3.1 | 0.8 |
| C21:0 | 1.74 ± 0.21 | n.d. | n.d. | n.d. |
| C24:0 | n.d. | 0.1 | n.d. | 0.3 |
| **∑ SFA** | **27.14** | **20.5** | **20.4** | **24.1** |
| C16:1 | 10.33 ± 0.92 | 3.6 | 3.3 | 7.9 |
| C18:1 | 25.37 ± 1.56 | 9.8 | 27.2 | 3.6 |
| C20:1 | 0.90 ± 0.01 | 2.5 | 2.3 | n.d. |
| **∑ MUFA** | **36.60** | **15.9** | **32.8** | **11.5** |
| C16:2 n-6 | 1.13 ± 0.02 | 0.1 | n.d. | 4.4 |
| C16:3 n-3 | 2.72 ± 0.10 | 1.5 | n.d. | 12.7 |
| C16:4 n-3 | n.d. | 15.9 | n.d. | n.d. |
| C18:2 n-6 | 16.51 ± 1.03 | 4.6 | 6.4 | 14.1 |
| C18:3 n-3 | 11.60 ± 0.95 | 25.2 | 16.3 | 32.9 |
| C18:3 n-6 | 0.50 ± 0.01 | 0.4 | n.d. | n.d. |
| C18:4 n-3 | n.d. | 6.1 | 10.4 | n.d. |
| C20:3 n-3 | n.d. | 0.1 | n.d. | n.d. |
| C20:4 n-6 | 0.98 ± 0.02 | 1.2 | 1.5 | n.d. |
| C20:5 n-3 | 2.82 ± 0.03 | 8.0 | 12.2 | n.d. |
| **∑ PUFA** | **36.26** | **63.1** | **46.8** | **64.1** |
| **∑ n-3** | **17.14** | **56.8** | **40.5** | **45.6** |

[1] *Dunstan et al.* [33]

[2] *Patil et al.* [34]

*n.d. – not detected*

Table S2 - Glycosidic-linkage analysis (mol%) of *Tetraselmis* sp. CTP4 grown semi-continuously in industrial tubular photobioreactors.

| Sugar residues | Mol% |
|---|---|
| t-Xyl | 1.1 |
| *Total Xyl* | *1.1* |
| 1,2,3,5-Araf | 3.5 |
| *Total Ara* | *3.5* |
| 1,3,6-Man | 2.8 |
| *Total Man* | *2.8* |
| 1,4-Gal | 21.5 |
| 1,3,4-Gal | 1.8 |
| *Total Gal* | *26.0* |
| t-Glc | 6.7 |
| 1,4-Glc | 57.4 |
| 1,6-Glc | 0.7 |
| 1,4,6-Glc | 4.4 |
| *Total Glc* | *69.2* |

Table S3 - Composition of minerals and heavy metals of *Tetraselmis* sp. CTP4 biomass grown semi-continuously in industrial tubular photobioreactors. Values represent the mean and corresponding standard deviation (*n*=3). Values from the literature for *Tetraselmis chui*, *Chlorella vulgaris* and *Arthrospira* sp. are also presented.

| | *Tetraselmis* CTP4 | *Tetraselmis chui*[1] | *Chlorella vulgaris*[2] | *Arthrospira sp.*[3] |
|---|---|---|---|---|
| **Minerals (g/100 g)** | | | | |
| Calcium | 1.19 ± 0.17 | 2.99 | 0.59 | 0.12 |
| Magnesium | 2.08 ± 0.30 | 0.43 | 0.34 | 0.20 |
| Phosphorus | 0.71 ± 0.10 | 1.46 | 1.76 | 0.12 |
| Potassium | 4.2 ± 0.61 | 1.86 | 0.05 | 1.36 |
| Sodium | 1.18 ± 1.15 | 0.89 | 1.35 | 1.05 |
| **Trace elements (mg/100 g)** | | | | |
| Iron | 32.3 ± 3.90 | 173.37 | 0.30 | 28.5 |
| Copper | 1.1 ± 0.10 | 10.22 | 0.06 | 6.1 |
| Selenium | <5 | 0.05 | 0.07 | 0.007 |
| Zinc | 2.9 ± 0.30 | 6.37 | 1.19 | 2.0 |
| Iodine | 0.14 ± 0.00 | n.r. | n.r. | n.r. |

[1] *Tibbetts et al.* [32]

[2] *Tokusoglu and Ünal* [26]

[3] *United States Department of Agriculture* [29]

*n.r. – not reported*