

Text S1: Detailed protocol of the ^{15}N - and ^{13}C -labeled *Artemia salina* used in Exp. 3 were prepared according to the protocol described by Krueger et al. (2018).

Tetraselmis sp. microalgae were grown for 3 weeks in f/2-medium spiked with 0.882 mM $\text{Na}^{15}\text{NO}_3$ (99 % ^{15}N ; Sigma-Aldrich) and 2 mM $\text{NaH}^{13}\text{CO}_3$ (99 % ^{13}C ; Sigma Aldrich). Eggs of *Artemia salina* brine shrimp were hatched in seawater in outdoor aquarium tanks that were also supplemented with 2 mM $\text{NaH}^{13}\text{CO}_3$ and 3 μM $\text{Na}^{15}\text{NO}_3$ to maintain the ^{13}C - and ^{15}N -enrichment in the *Tetraselmis* algae. The *Artemia* nauplii were fed daily for nine days with the ^{15}N - and ^{13}C -enriched *Tetraselmis* algae, starting the second day after hatching. After a week, the *A. salina* were collected and freeze-dried. Some *A. salina* were subsampled at the end of the nine days and embedded for NanoSIMS analysis (see Krueger et al., 2018). This *Artemia* subsample yielded mean ^{13}C and ^{15}N enrichments that were 4.8 atom % and 33.8 atom %, respectively.

Reference:

Krueger, T., Bodin, J., Horwitz, N., Loussert-Fonta, C., Sakr, A., Escrig, S., Fine, M., Meibom, A., 2018. Temperature and feeding induce tissue level changes in autotrophic and heterotrophic nutrient allocation in the coral symbiosis – A NanoSIMS study. *Scientific Reports* 8, 12710. <https://doi.org/10.1038/s41598-018-31094-1>