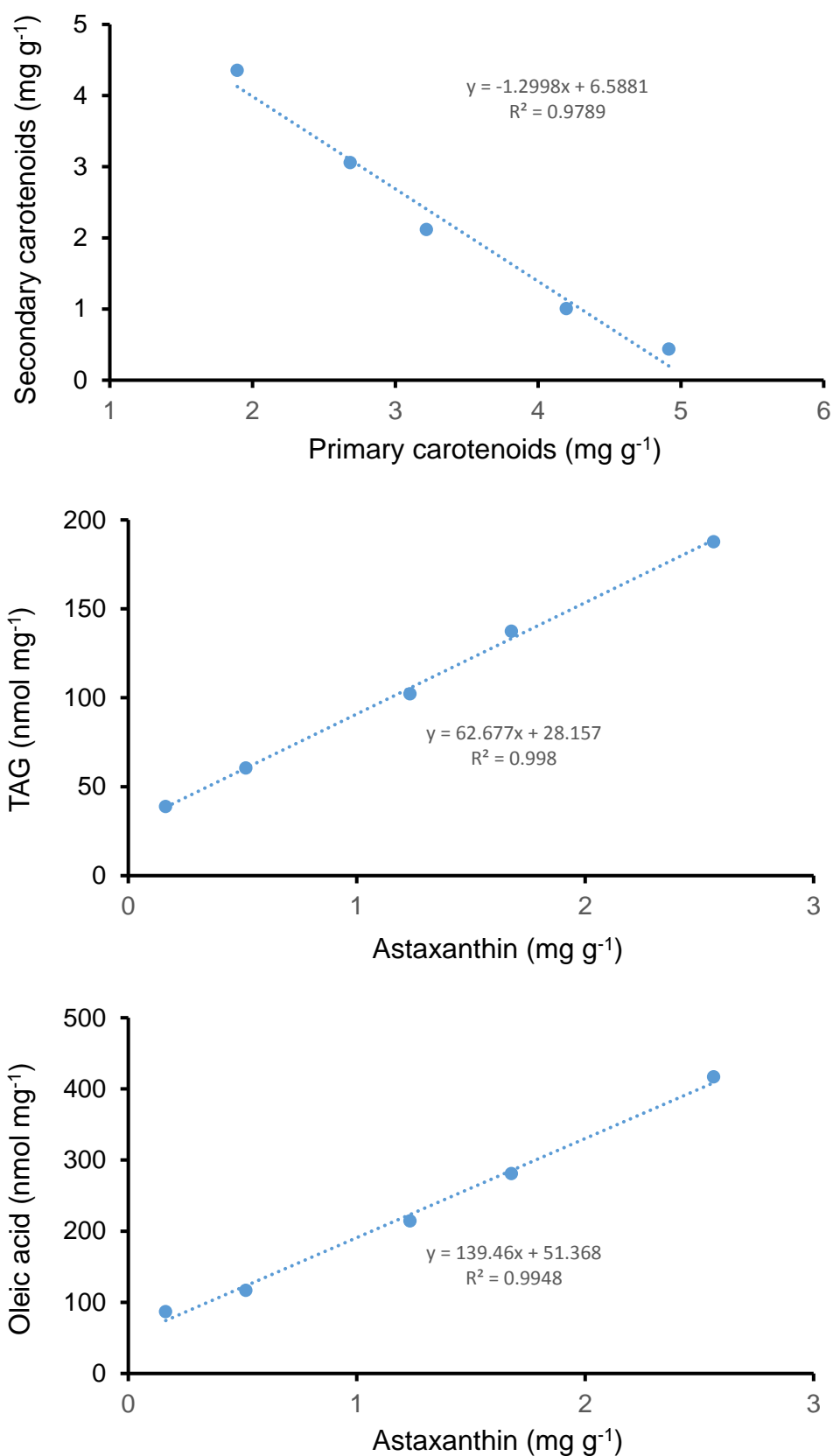
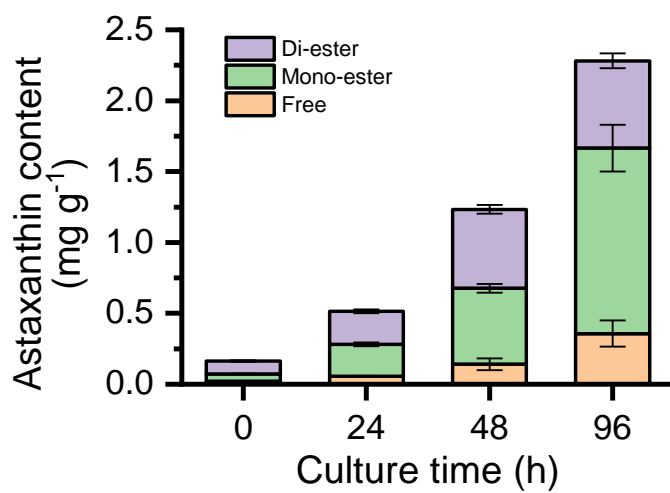


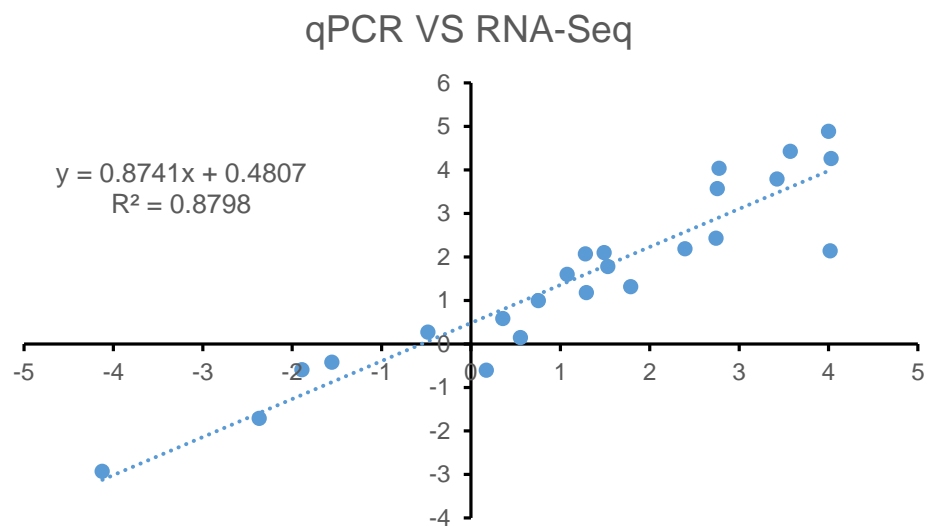
**Figure S1.** Time course of relative abundance of fatty acids in response to 0.2 M NaCl. SFA, saturated fatty acids; MUFA, monounsaturated fatty acids; PUFA, polyunsaturated fatty acids.



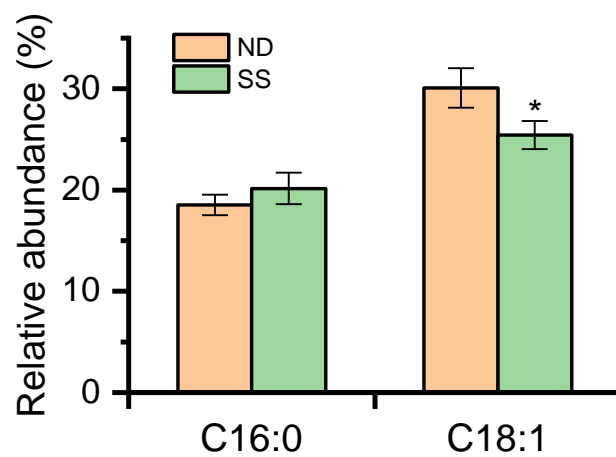
**Figure S2.** Correlation analysis between primary and secondary carotenoids, esterified astaxanthin and TAG, and esterified astaxanthin and oleic acid. The data were from the time-resolved experiment under 0.2 M salt concentration.



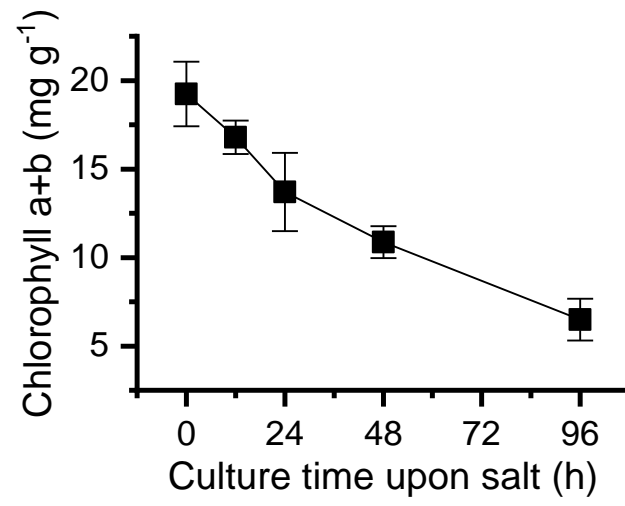
**Figure S3.** Time course distribution of free astaxanthin, mono-ester, and di-ester in response to 0.2 M NaCl.



**Figure S4.** Consistency between RNA-seq-based and qPCR-based transcript quantification. A total of 24 genes were chosen for qPCR validation. The genes and primer sequences for qPCR are listed in Additional file 3: Table S2.



**Figure S5.** The relative abundance of C16:0 and C18:1 in *sn*-2 position of TAG from *C. zoefingiensis* under ND and SS conditions. ND, nitrogen deprivation; SS, 0.2 M salt. Asterisk indicates the significant difference (*t*-test,  $p < 0.05$ ) between ND and SS.



**Figure S6.** Time course of chlorophyll content in *C. zoofingensis* in the presence of 0.2 M salt.