Supplementary Figure 5. Construct design for co-expression of DGAT1 and oleosins in *Arabidopsis thaliana*. Oleosin and DGAT coding regions had their sequences and mRNA stability optimised by GENEART AG (Germany). In addition the oleosin and DGAT1 coding sequences were further optimised as per Scott et al., (2010), including: addition of the same Kozak sequence; UBQ10 intron; and a double stop codon where the second contained a tetrancleotide stop codon. The oleosin and DGAT1 sequences were synthesised in a tandem orientation, separated by an OCS terminator and CaMV35S promoter and flanked by attL sites. This cassette was transferred by LR reaction into the plant binary vector pRSh1 (Winichayakul et al., 2008) which contained a GATEWAY™ destination cassette under the control of the CaMV35S promoter and OCS terminator as well as the BAR resistance gene under a separate CaMV35S promoter. Consequently the oleosin and DGAT1 were in a tandem orientation with respect to each other and each was under the control of their own CaMV35S promoters and OCS terminators. To disrupt a potential targeting site of the sucrose non-fermenting (SNF)-related protein kinase 1 family the Arabidopsis DGAT1 (Accession NP_179535) Serine 205 was changed to Alanine as per Xu et al., (2008).

Constructs were assigned the following abbreviations, WT = Wild Type; VC = Vector Control; D1 = DGAT1 (S205A); D1o0,0 = DGAT1 (S205A) + oleosin with no cysteine residues; D1o1,1 = DGAT1 (S205A) + oleosin with 1 cysteine residue in each amphipathic arm; D1o1,3 = DGAT1 (S205A) + oleosin with 1 cysteine residue in the N-terminal amphipathic arm and 3 cysteine residues in the C-terminal amphipathic arm; D1o3,1 = DGAT1 (S205A) + oleosin with 3 cysteine residues in the N-terminal amphipathic arm and 1 cysteine residue in the C-terminal amphipathic arm; D1o3,3 = DGAT1 (S205A) + oleosin with 3 cysteine residues in the N-terminal amphipathic arm and 3 cysteine residues in the C-terminal amphipathic arm; D1o5,6 = DGAT1 (S205A) + oleosin with 5 cysteine residues in the N-terminal amphipathic arm and 6 cysteine residues in the C-terminal amphipathic arm; D1o6,7 = DGAT1 (S205A) + oleosin with 6 cysteine residues in the N-terminal amphipathic arm and 7 cysteine residues in the C-terminal amphipathic arm.

References for Supplementary Figure 5.