**Supplementary Table S1.** Sequences of primers used in this study.

Primers for amplification of *DOG1* in *Brassica napus* BACs

DOG1EX1F: 5’ CTT AGC TCA ACG ACG ATC TCA 3’

DOG1EX1R: 5’ CGA TGT TGC GGA GAA ACT GAG 3’

DOG1EX2F: 5’ GAC GAA GAA GAG AAG ATG ACC 3’

DOG1EX2R: 5’ GCC ATA GCT TCT TCT TGC TTG 3’

Primers for BAC sequencing of *DOG1* in *B. napus*

DOG1R1: 5’ CTC CGC CGT TAG ATC GCT GAG 3’

DOG1F1: 5’ ATC TCC ACC GTG GCT TAC GC 3’

DOG1F1A: 5’ CAT AGA CGA AGA AGA GAA GAT G 3’

D1-137R1: 5’ CGT TCT CCA AAG GAG TGT TCC 3’

D1-4R1: 5’ CAT AAA CTG TAA TAT GTT AAA CC 3’

RB14-RNA\_BAC14F: 5’ CAG GTA GTG GTG GCG CAT CA 3’

RB1R-RNA\_BAC1R: 5’ GGT GGA GAT AGG AAT ATC AGC G 3’

RB3F-RNA\_BAC3F: 5’ CAG GTA GTG GTG GCG CAT CG 3’

RB3R-RNA\_BAC3R: 5’ GGT GGA GAT AGG AAT ATC AGC C 3’

RB4R-RNA\_BAC4R: 5’ CG GTG GAG ATG GGG ATA TCC 3’

B3\_RD: 5’ GCT CGA GCT ACA TCG GTG TG 3’

B4\_RD: 5’ GTC TCA GGT TAG ATC CCA GCA G 3’

B3\_1\_F: 5’ GCG GAG CAG CTG GCG AAG ATC 3’

BAC4\_Ex1: 5’ CAA TCC CAA CGC GTC CCT GAG C 3’

NBAC\_Ex2: 5’ GAC GAA GAA GAG AAG ATG AC 3’

BA13\_Ex3: 5’ CTG GCG CCG ATG CAA GCC GCG 3’

B4St-BAC4\_start: 5’ GGA GTG TTC CAC GAC GGC GC 3’

B4Mg-BAC4\_merge: 5’ GTT TCT CCG TAA CAT CGA CGG C 3’

Primers for analysis of transcript levels in *B. napus*

BnDOG1FW: 5´ cat aga cga aga aga gaa gat gac 3´

BnDOG1RE: 5´ gcc ata gct tct tct tgc ttg 3´

BnUBCFW: 5’ CAT CCC AAT GTG CAT TTC AAG AC 3’

BnUBCRE: 5’ GTG CCA TTG AAT TGA ACC CTC T 3’

BnILP1FW: 5´ tcc ctg gat caa gtt aca ctg c 3´

BnILP1RE: 5´ agt taa ttg cca tcc aca aag cg 3´

BnHBTFW: 5´ cag agc atc act tca gaa tgg c 3´

BnHBTRE: 5´ gct ttc tgg tac att gga aga gg 3’