

Supplementary Table 1. Summary of the polymerase read statistics for Fababeans from PacBio sequencing

Library	Polymerase Read length (bp)	Polymerase Reads (bp)	Polymerase Read N50 (bp)	Polymerase Read length (bp)
1-3kb	31819542182	330824	167709	96183
>3kb	47391599705	626186	141667	75683
Total	79211141887	957010	309376	171866

Supplementary Table 2. Summary of the Subread statistics for Fababeans from PacBio

Library	Subread length (bp)	Subreads	Subread N50 (bp)	Avg. Subread length (bp)
1-3kb	30808203355	23086802	1554	1334
>3kb	46843019830	12843385	3599	3647
Total	77651223185	35930187	5153	4981

sequencing

Supplementary Table 3. Summary of circular consensus sequence (CCS)

Category	1-3kb	>3kb	Total
CCS reads	3,09,781	5,38,149	8,47,930
Number of CCS bases	52,71,42,715	2,06,74,90,009	2,59,46,32,724
CCS Read Length (mean)	1,701	3,841	5,542
Number of Passes (mean)	72	22	94

Supplementary Table 5. Summary of gene families involved cold stress

a) List of WCOR413 genes selected from the Fababean full-length gene set

No.	Contig	NR	Pfam	NT
1	FaBabeanB_3kb_HQ_transcript/15469	cold-regulated 413 plasma membrane protein 1 [Cajanus cajan]	PF05562.8	Medicago truncatula cold acclimation protein WCOR413 mRNA
2	FaBabeanB_3kb_HQ_transcript/15785	cold-regulated 413 inner membrane protein 1, chloroplastic [Medicago truncatula]	PF05562.8	Medicago truncatula cold acclimation protein WCOR413 mRNA
3	FaBabeanB_3kb_HQ_transcript/16168	cold-regulated 413 inner membrane protein 1, chloroplastic [Medicago truncatula]	PF05562.8	Medicago truncatula cold acclimation protein WCOR413 mRNA
4	FaBabeanB_3kb_HQ_transcript/16543	cold-regulated 413 plasma membrane protein 1 [Cajanus cajan]	PF05562.8	Medicago truncatula clone JCVI-FLMt-11I1 unknown mRNA
5	FaBabeanB_3kb_HQ_transcript/16601	cold-regulated 413 plasma membrane protein 1 [Cajanus cajan]	PF05562.8	Medicago truncatula cold acclimation protein WCOR413 mRNA
6	FaBabeanB_3kb_HQ_transcript/17310	cold-regulated 413 plasma membrane protein 1 [Cajanus cajan]	PF05562.8	Medicago truncatula clone JCVI-FLMt-11I1 unknown mRNA

b) List of DHN2 genes selected from the Fababean full-length gene set.

No.	Contig	NR	Pfam	NT
1	FaBabeanB_3kb_HQ_transcript/12403	dehydrin-cognate [Pisum sativum]	PF00257	P. sativum dhncog gene encoding dehydrin-cognate
2	FaBabeanB_3kb_HQ_transcript/14108	dehydrin-cognate [Pisum sativum]	PF00257	P. sativum dhncog gene encoding dehydrin-cognate
3	FaBabeanB_3kb_HQ_transcript/14197	dehydrin-cognate [Pisum sativum]	PF00257	P. sativum dhncog gene encoding dehydrin-cognate
4	FaBabeanB_3kb_HQ_transcript/14797	dehydrin-cognate [Pisum sativum]	PF00257	P. sativum dhncog gene encoding dehydrin-cognate
5	FaBabeanB_3kb_HQ_transcript/16189	dehydrin-cognate [Pisum sativum]	PF00257	P. sativum dhncog gene encoding dehydrin-cognate

c) List of CBF genes selected from the Fababean full-length gene set.

	Contig	NR	Pfam	NT
1	FaBabeanB_3kb_HQ_transcript/10266	ethylene-responsive element binding protein [Medicago falcata]	K4BN49.1 PF00847.17;AP2;	Medicago truncatula ethylene response factor mRNA
2	FaBabeanB_3kb_HQ_transcript/11169	putative ethylene responsive factor [Vicia faba]	I1KYC2.1 PF00847.17;AP2;	Pisum sativum AT-rich element binding factor 2 (ATF2) mRNA, complete cds
3	FaBabeanB_3kb_HQ_transcript/11742	ethylene-responsive transcription factor ERF060 [Medicago truncatula] <KEH20859.1 ethylene response factor [Medicago truncatula]	I1K4K5.1 PF00847.17;AP2;	Trifolium repens clone BAC 88n22 myo-inositol-1-phosphate synthase, bristled-like protein, ethylene insensitive-like protein, bZIP transcription factor, acyl-coA oxidase, and dehydration responsive element binding protein genes, complete cds; and unknown genes
4	FaBabeanB_3kb_HQ_transcript/12219	putative ethylene responsive factor [Vicia faba]	I1KYC2.1 PF00847.17;AP2;	Pisum sativum AT-rich element binding factor 2 (ATF2) mRNA, complete cds
5	FaBabeanB_3kb_HQ_transcript/12237	putative ethylene responsive factor [Vicia faba]	I1KYC2.1 PF00847.17;AP2;	Pisum sativum AT-rich element binding factor 2 (ATF2) mRNA, complete cds
6	FaBabeanB_3kb_HQ_transcript/13400	hypothetical protein PHAVU_002G016700g [Phaseolus vulgaris] <ESW28771.1 hypothetical protein PHAVU_002G016700g [Phaseolus vulgaris]	Q8W3M3.1 PF00847.17;AP2;	Medicago truncatula chromosome 5 clone mth2-28f11, COMPLETE SEQUENCE
7	FaBabeanB_3kb_HQ_transcript/14307	ethylene-responsive transcription factor-like protein At4g13040 isoform X2 [Medicago truncatula] <KEH22585.1 ethylene response factor [Medicago truncatula]	K4CTN5.1 PF00847.17;AP2;	Medicago truncatula ethylene response factor mRNA

8	FaBabeanB_3kb_HQ_transcript/14546	putative ethylene responsive factor [Vicia faba]	I1KYC2.1 PF00847.17;AP2;	Pisum sativum AT-rich element binding factor 2 (ATF2) mRNA, complete cds
9	FaBabeanB_3kb_HQ_transcript/14633	hypothetical protein PHAVU_002G016700g [Phaseolus vulgaris] <ESW28771.1 hypothetical protein PHAVU_002G016700g [Phaseolus vulgaris]	Q8W3M3.1 PF00847.17;AP2;	Medicago truncatula ethylene response factor mRNA
10	FaBabeanB_3kb_HQ_transcript/14636	unknown [Medicago truncatula]	A0A072V5S6.1 PF00847.17;AP2;	Vicia faba putative ethylene responsive factor (ERF2) mRNA, complete cds
11	FaBabeanB_3kb_HQ_transcript/14775	putative ethylene responsive factor [Vicia faba]	I1KYC2.1 PF00847.17;AP2;	Pisum sativum AT-rich element binding factor 2 (ATF2) mRNA, complete cds
12	FaBabeanB_3kb_HQ_transcript/15647	ethylene-responsive transcription factor ERF104 [Medicago truncatula] <KEH41321.1 ethylene response factor [Medicago truncatula]	A0A072VI96.1 PF00847.17;AP2;	Medicago truncatula ethylene response factor mRNA
13	FaBabeanB_3kb_HQ_transcript/15870	DREB transcription factor 1 [Medicago ruthenica]	A0A072UL75.1 PF00847.17;AP2;	Medicago sativa subsp. falcata putative DRE-binding protein DREB1 (DREB1) mRNA, complete cds
14	FaBabeanB_3kb_HQ_transcript/15890	ethylene response factor 8 [Medicago sativa]	I1LCJ0.1 PF00847.17;AP2;	Medicago sativa ethylene response factor 8 (ERF8) mRNA, complete cds
15	FaBabeanB_3kb_HQ_transcript/16889	ethylene-responsive transcription factor rap2-1-like protein [Trifolium pratense]	M1ADM5.1 PF00847.17;AP2;	PREDICTED: Cicer arietinum ethylene-responsive transcription factor RAP2-1-like (LOC101512420), mRNA
16	FaBabeanB_3kb_HQ_transcript/17432	pathogenesis-related genes transcriptional activator PTI5 [Medicago truncatula] <AES63941.1 ethylene response factor [Medicago truncatula]	K7M1F8.1 PF00847.17;AP2;	Medicago truncatula ethylene response factor mRNA

17	FaBabeanB_3kb_HQ_transcript/4409	APETAL2-like protein [Pisum sativum]	A0A060CZG0.1 PF00847.17;AP2;	Pisum sativum APETAL2-like protein mRNA, complete cds
18	FaBabeanB_3kb_HQ_transcript/4589	PREDICTED: floral homeotic protein APETALA 2-like [Cicer arietinum]	A0A060CZG0.1 PF00847.17;AP2;	Pisum sativum APETAL2-like protein mRNA, complete cds
19	FaBabeanB_3kb_HQ_transcript/5672	floral homeotic protein APETALA 2 isoform X2 [Medicago truncatula] <AES94650.1 AP2 domain transcription factor [Medicago truncatula]	A0A060CZG0.1 PF00847.17;AP2;	Medicago truncatula AP2 domain transcription factor mRNA
20	FaBabeanB_3kb_HQ_transcript/6011	ethylene-responsive transcription factor erf118-like protein [Trifolium pratense]	K4BXB9.1 PF00847.17;AP2;	Medicago truncatula ethylene-responsive transcription factor ERF118-like protein mRNA
21	FaBabeanB_3kb_HQ_transcript/6590	ethylene-responsive transcription factor rap2-7-like protein [Trifolium pratense]	A0A060CZG0.1 PF00847.17;AP2;	Medicago truncatula AP2-like ethylene-responsive transcription factor mRNA
22	FaBabeanB_3kb_HQ_transcript/6834	ethylene-responsive transcription factor RAP2-4 [Medicago truncatula] <AEX93413.1 putative AP2/EREBP transcription factor [Medicago truncatula] <KEH34901.1 ethylene response factor [Medicago truncatula]	C5YKT7.1 PF00847.17;AP2;	Medicago truncatula ethylene response factor mRNA
23	FaBabeanB_3kb_HQ_transcript/7404	ethylene-responsive transcription factor erf118-like protein [Trifolium pratense]	K4BXB9.1 PF00847.17;AP2;	Medicago truncatula ethylene-responsive transcription factor ERF118-like protein mRNA
24	FaBabeanB_3kb_HQ_transcript/7813	ethylene-responsive element binding protein [Medicago falcata]	K4BN49.1 PF00847.17;AP2;	Medicago truncatula ethylene response factor mRNA
25	FaBabeanB_3kb_HQ_transcript/8585	ethylene-responsive element binding protein [Medicago falcata]	K4BN49.1 PF00847.17;AP2;	Medicago truncatula ethylene response factor mRNA

26	FaBabeanB_3kb_HQ_transcript/9776	ethylene-responsive element binding protein [Medicago falcata]	K4BN49.1 PF00847.17;AP2;	Medicago truncatula ethylene response factor mRNA
27	FaBabeanB_3kbup_HQ_transcript/14070	disease resistance protein rga3-like [Trifolium pratense]	I1JHM5.1 PF00847.17;AP2;	PREDICTED: Cicer arietinum disease resistance protein RGA2- like (LOC101498365), mRNA
28	FaBabeanB_3kbup_HQ_transcript/22496	ethylene-responsive transcription factor rap2-7-like protein [Trifolium pratense]	A0A060CZG0.1 PF00847.17;AP2;	PREDICTED: Cicer arietinum ethylene- responsive transcription factor RAP2-7 (LOC101489539), mRNA
29	FaBabeanB_3kbup_HQ_transcript/8966	disease resistance protein rga3-like [Trifolium pratense]	I1JHM5.1 PF00847.17;AP2;	Medicago truncatula clone mth2-24f15, complete sequence
30	FaBabeanB_3kbup_HQ_transcript/9360	disease resistance protein rga3-like [Trifolium pratense]	I1JHM5.1 PF00847.17;AP2;	PREDICTED: Cicer arietinum disease resistance protein RGA2- like (LOC101498365), mRNA

d) List of ICE genes selected from the Fababean full-length gene set.

	Contig	NR	Pfam	NT
1	FaBabeanB_3kb_HQ_transcript/10596	transcription factor bHLH63 isoform X2 [Medicago truncatula] <AES74186.2 BHLH transcription factor [Medicago truncatula]	M4D4Y3.1 PF00010.23;HLH;	Medicago truncatula clone JCVI-FLMt-18N21 unknown mRNA
2	FaBabeanB_3kb_HQ_transcript/10652	hypothetical protein TSUD_333600 [Trifolium subterraneum]	G7ICN0.1 PF00010.23;HLH;	PREDICTED: Cicer arietinum transcription factor UNE12 (LOC101502533), transcript variant X2, mRNA
3	FaBabeanB_3kb_HQ_transcript/10870	transcription factor bHLH63 [Medicago truncatula] <AES89129.1 transcription factor [Medicago truncatula]	M4D4Y3.1 PF00010.23;HLH;	Medicago truncatula transcription factor mRNA
4	FaBabeanB_3kb_HQ_transcript/11233	transcription factor bHLH63 [Medicago truncatula] <AES89129.1 transcription factor [Medicago truncatula]	M4D4Y3.1 PF00010.23;HLH;	Medicago truncatula transcription factor mRNA
5	FaBabeanB_3kb_HQ_transcript/11366	transcription factor bHLH63 [Medicago truncatula] <AES89129.1 transcription factor [Medicago truncatula]	M4D4Y3.1 PF00010.23;HLH;	Medicago truncatula transcription factor mRNA
6	FaBabeanB_3kb_HQ_transcript/11633	transcription factor bHLH7 isoform X1 [Medicago truncatula] <AES60927.1 helix loop helix DNA-binding domain protein [Medicago truncatula]	A0A072VLC0.1 PF00010.23;HLH;	Medicago truncatula helix loop helix DNA-binding domain protein mRNA
7	FaBabeanB_3kb_HQ_transcript/11828	transcription factor bHLH63 [Medicago truncatula] <AES89129.1 transcription factor [Medicago truncatula]	M4D4Y3.1 PF00010.23;HLH;	Medicago truncatula transcription factor mRNA
8	FaBabeanB_3kb_HQ_transcript/11855	transcription factor BIM2 [Medicago truncatula] <AES97297.1 transcription factor BIM2-like protein [Medicago truncatula]	G7JZB3.1 PF00010.23;HLH;	PREDICTED: Cicer arietinum transcription factor BIM2 (LOC101511604), mRNA
9	FaBabeanB_3kb_HQ_transcript/11858	hypothetical protein TSUD_141490 [Trifolium subterraneum]	I1GN25.1 PF00010.23;HLH;	Medicago truncatula BHLH transcription factor-like protein mRNA
10	FaBabeanB_3kb_HQ_transcript/11871	transcription factor BIM2 [Medicago truncatula] <AES97297.1 transcription factor BIM2-like protein [Medicago truncatula]	G7JZB3.1 PF00010.23;HLH;	PREDICTED: Cicer arietinum transcription factor BIM2 (LOC101511604), mRNA
11	FaBabeanB_3kb_HQ_transcript/12406	hypothetical protein TSUD_00230 [Trifolium subterraneum]	B9IAD1.1 PF00010.23;HLH;	PREDICTED: Cicer arietinum transcription factor bHLH128-like (LOC101501688), mRNA
12	FaBabeanB_3kb_HQ_transcript/12832	PREDICTED: transcription factor bHLH79-like [Cicer arietinum]	K7K628.1 PF00010.23;HLH;	PREDICTED: Cicer arietinum transcription factor bHLH79-like (LOC101513654), mRNA
13	FaBabeanB_3kb_HQ_transcript/13571	PREDICTED: transcription factor ILR3-like [Cicer arietinum]	B9SA09.1 PF00010.23;HLH;	Medicago truncatula BHLH domain class transcription factor mRNA
14	FaBabeanB_3kb_HQ_transcript/15326	hypothetical protein TSUD_172970 [Trifolium subterraneum]	B9IBW9.2 PF00010.23;HLH;	PREDICTED: Cicer arietinum transcription factor UNE10 (LOC101492173), mRNA
15	FaBabeanB_3kb_HQ_transcript/15388	transcription factor bHLH47-like protein [Trifolium pratense]	M0SG68.1 PF00010.23;HLH;	PREDICTED: Cicer arietinum transcription factor bHLH47 (LOC101512450), mRNA

16	FaBabeanB_3kb_HQ_transcript/15669	hypothetical protein TSUD_101990 [Trifolium subterraneum]	B9SA09.1 PF00010.23;HLH;	Medicago truncatula BHLH domain class transcription factor mRNA
17	FaBabeanB_3kb_HQ_transcript/15835	hypothetical protein TSUD_101990 [Trifolium subterraneum]	B9SA09.1 PF00010.23;HLH;	Medicago truncatula BHLH domain class transcription factor mRNA
18	FaBabeanB_3kb_HQ_transcript/16148	PREDICTED: transcription factor bHLH104-like [Cicer arietinum]	G7I5E7.1 PF00010.23;HLH;	Medicago truncatula BHLH domain class transcription factor mRNA
19	FaBabeanB_3kb_HQ_transcript/2201	hypothetical protein TSUD_208340 [Trifolium subterraneum]	A0A0D3CAD2.1 PF00010.23;HLH;	Medicago truncatula transcription factor BIM2- like protein mRNA
20	FaBabeanB_3kb_HQ_transcript/5257	transcription factor bHLH130 [Medicago truncatula] <AES67711.1 transcription factor bHLH122-like protein [Medicago truncatula]	V4KKA9.1 PF00010.23;HLH;	Medicago truncatula transcription factor bHLH122-like protein mRNA
21	FaBabeanB_3kb_HQ_transcript/5850	hypothetical protein TSUD_322910 [Trifolium subterraneum]	A0A0D3DPE4.1 PF00010.23;HLH;	Medicago truncatula basic helix loop helix protein BHLH23 mRNA
22	FaBabeanB_3kb_HQ_transcript/6444	transcription factor PIF4 isoform X2 [Medicago truncatula]	M0STT9.1 PF00010.23;HLH;	Medicago truncatula transcription factor partial mRNA
23	FaBabeanB_3kb_HQ_transcript/6602	hypothetical protein TSUD_172970 [Trifolium subterraneum]	B9IBW9.2 PF00010.23;HLH;	PREDICTED: Cicer arietinum transcription factor UNE10 (LOC101492173), mRNA
24	FaBabeanB_3kb_HQ_transcript/6688	hypothetical protein TSUD_109710 [Trifolium subterraneum]	V4KKA9.1 PF00010.23;HLH;	Medicago truncatula transcription factor bHLH122-like protein mRNA
25	FaBabeanB_3kb_HQ_transcript/7482	transcription factor PIF1 isoform X1 [Medicago truncatula] <XP_024625778.1 transcription factor PIF1 isoform X1 [Medicago truncatula] <AES81693.1 transcription factor [Medicago truncatula]	A0A022PNX7.1 PF00010.23;HLH;	Medicago truncatula transcription factor mRNA
26	FaBabeanB_3kb_HQ_transcript/7624	hypothetical protein TSUD_172970 [Trifolium subterraneum]	B9IBW9.2 PF00010.23;HLH;	PREDICTED: Cicer arietinum transcription factor UNE10 (LOC101492173), mRNA
27	FaBabeanB_3kb_HQ_transcript/8089	transcription factor bHLH144-like protein [Trifolium pratense]	M1AF13.1 PF00010.23;HLH;	PREDICTED: Cicer arietinum transcription factor bHLH144-like (LOC101491896), mRNA
28	FaBabeanB_3kb_HQ_transcript/8238	transcription factor bHLH130 [Medicago truncatula] <AES67711.1 transcription factor bHLH122-like protein [Medicago truncatula]	V4KKA9.1 PF00010.23;HLH;	Medicago truncatula transcription factor bHLH122-like protein mRNA
29	FaBabeanB_3kb_HQ_transcript/8552	hypothetical protein TSUD_333600 [Trifolium subterraneum]	G7ICN0.1 PF00010.23;HLH;	PREDICTED: Cicer arietinum transcription factor UNE12 (LOC101502533), transcript variant X2, mRNA
30	FaBabeanB_3kb_HQ_transcript/8643	hypothetical protein TSUD_413200 [Trifolium subterraneum]	V4KKA9.1 PF00010.23;HLH;	Medicago truncatula transcription factor bHLH122-like protein mRNA
31	FaBabeanB_3kb_HQ_transcript/8747	hypothetical protein TSUD_172970 [Trifolium subterraneum]	B9IBW9.2 PF00010.23;HLH;	PREDICTED: Cicer arietinum transcription factor UNE10 (LOC101492173), mRNA
32	FaBabeanB_3kb_HQ_transcript/8850	hypothetical protein TSUD_172970 [Trifolium subterraneum]	B9IBW9.2 PF00010.23;HLH;	PREDICTED: Cicer arietinum transcription factor UNE10 (LOC101492173), mRNA

				mRNA
33	FaBabeanB_3kb_HQ_transcript/8965	transcription factor PIF1-like protein, partial [Trifolium pratense]	A0A022PNX7.1 PF00010.23;HLH;	Medicago truncatula transcription factor mRNA
34	FaBabeanB_3kb_HQ_transcript/9166	PREDICTED: transcription factor bHLH48 [Cicer arietinum]	K3XXX3.1 PF00010.23;HLH;	PREDICTED: Cicer arietinum transcription factor bHLH48 (LOC101495752), mRNA
35	FaBabeanB_3kb_HQ_transcript/9563	transcription factor UNE12 [Medicago truncatula] <KEH43018.1 transcription factor UNE12-like protein [Medicago truncatula]	G7ICN0.1 PF00010.23;HLH;	Medicago truncatula transcription factor UNE12-like protein mRNA
36	FaBabeanB_3kb_HQ_transcript/9973	hypothetical protein TSUD_26280 [Trifolium subterraneum]	G7ICN0.1 PF00010.23;HLH;	PREDICTED: Cicer arietinum transcription factor UNE12-like (LOC101488285), mRNA
37	FaBabeanB_3kbup_HQ_transcript/15686	hypothetical protein TSUD_208340 [Trifolium subterraneum]	M0TJ47.1 PF00010.23;HLH;	Medicago truncatula transcription factor BIM2-like protein mRNA
38	FaBabeanB_3kbup_HQ_transcript/15902	hypothetical protein TSUD_388230 [Trifolium subterraneum]	I1GN25.1 PF00010.23;HLH;	Medicago truncatula BHLH transcription factor-like protein mRNA
39	FaBabeanB_3kbup_HQ_transcript/17060	phytochrome-interacting factor 3.1 [Medicago truncatula]	M0YQ17.1 PF00010.23;HLH;	Medicago truncatula phytochrome-interacting factor 3.1 mRNA
40	FaBabeanB_3kbup_HQ_transcript/17409	hypothetical protein TSUD_172970 [Trifolium subterraneum]	B9IBW9.2 PF00010.23;HLH;	PREDICTED: Cicer arietinum transcription factor UNE10 (LOC101492173), mRNA
41	FaBabeanB_3kbup_HQ_transcript/19322	hypothetical protein TSUD_172970 [Trifolium subterraneum]	B9IBW9.2 PF00010.23;HLH;	PREDICTED: Cicer arietinum transcription factor UNE10 (LOC101492173), mRNA
42	FaBabeanB_3kbup_HQ_transcript/21105	PREDICTED: transcription factor bHLH79-like [Cicer arietinum]	K7K628.1 PF00010.23;HLH;	Medicago truncatula chromosome 5 clone mth4-7g23, COMPLETE SEQUENCE
43	FaBabeanB_3kbup_HQ_transcript/21273	PREDICTED: transcription factor PIF3 isoform X2 [Cicer arietinum]	A0A0D3EMM9.1 PF00010.23;HLH;	Medicago truncatula phytochrome-interacting factor 3.1 mRNA
44	FaBabeanB_3kbup_HQ_transcript/23879	PREDICTED: transcription factor PIF3 isoform X2 [Cicer arietinum]	A0A0D3EMM9.1 PF00010.23;HLH;	Medicago truncatula phytochrome-interacting factor 3.1 mRNA
45	FaBabeanB_3kbup_HQ_transcript/24101	transcription factor PIF4 isoform X1 [Medicago truncatula] <KEH33641.1 transcription factor [Medicago truncatula]	M0STT9.1 PF00010.23;HLH;	Medicago truncatula transcription factor partial mRNA

e) List of COR genes selected from the Fababean full-length gene set.

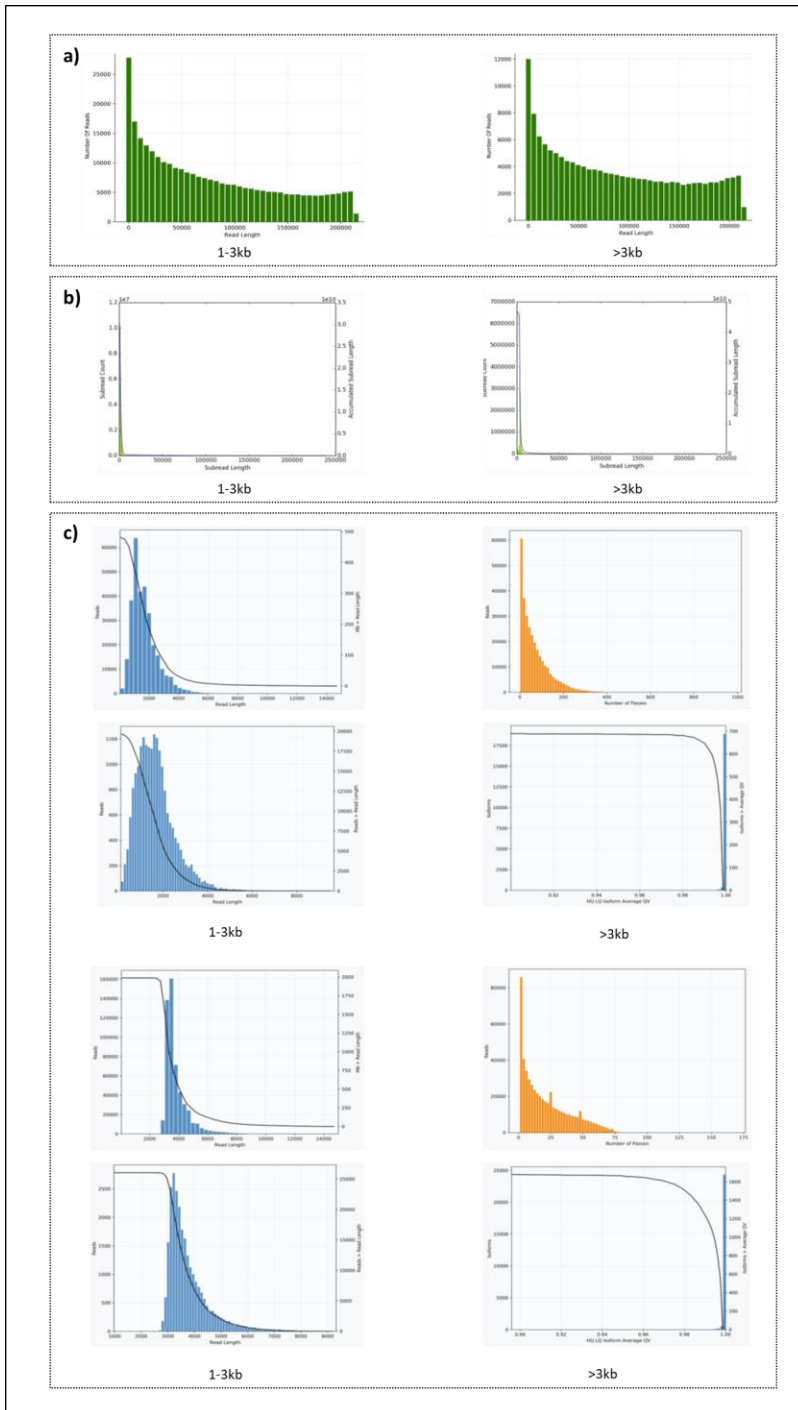
No.	Contig	NR	Pfam	NT
1	FaBabeanB_3kb_HQ_transcript/14478	chlorophyll a-b binding protein CP24 10A, chloroplastic [Medicago truncatula]	PF00504	Medicago truncatula light-harvesting complex I chlorophyll A/B-binding protein mRNA
2	FaBabeanB_3kb_HQ_transcript/15109	chlorophyll a-b binding protein CP24 10A, chloroplastic [Medicago truncatula]	PF00504	Medicago truncatula light-harvesting complex I chlorophyll A/B-binding protein mRNA
3	FaBabeanB_3kb_HQ_transcript/16562	chlorophyll a-b binding protein CP24 10A, chloroplastic [Medicago truncatula]	PF00504	Medicago truncatula light-harvesting complex I chlorophyll A/B-binding protein mRNA
4	FaBabeanB_3kb_HQ_transcript/17484	Chain 4, Structure Of Stacked C2s2m2-type Psii-lhcii Supercomplex From Pisum Sativum	PF00504	Medicago truncatula light-harvesting complex I chlorophyll A/B-binding protein mRNA
5	FaBabeanB_3kb_HQ_transcript/18387	Chain 4, Structure Of Stacked C2s2m2-type Psii-lhcii Supercomplex From Pisum Sativum	PF00504	Medicago truncatula light-harvesting complex I chlorophyll A/B-binding protein mRNA
6	FaBabeanB_3kb_HQ_transcript/18974	Chain 4, Structure Of Stacked C2s2m2-type Psii-lhcii Supercomplex From Pisum Sativum	PF00504	Medicago truncatula light-harvesting complex I chlorophyll A/B-binding protein mRNA
7	FaBabeanB_3kb_HQ_transcript/19075	Chain 4, Structure Of Stacked C2s2m2-type Psii-lhcii Supercomplex From Pisum Sativum	PF00504	Medicago truncatula light-harvesting complex I chlorophyll A/B-binding protein mRNA
8	FaBabeanB_3kb_HQ_transcript/19425	PREDICTED: chlorophyll a-b binding protein CP24 10A, chloroplastic [Cicer arietinum]	PF00504	Medicago truncatula light-harvesting complex I chlorophyll A/B-binding protein mRNA
9	FaBabeanB_3kb_HQ_transcript/19606	PREDICTED: chlorophyll a-b binding protein CP24 10A, chloroplastic [Cicer arietinum]	PF00504	Medicago truncatula light-harvesting complex I chlorophyll A/B-binding protein mRNA

f) List of DHN2 genes selected from the Fababean full-length gene set.

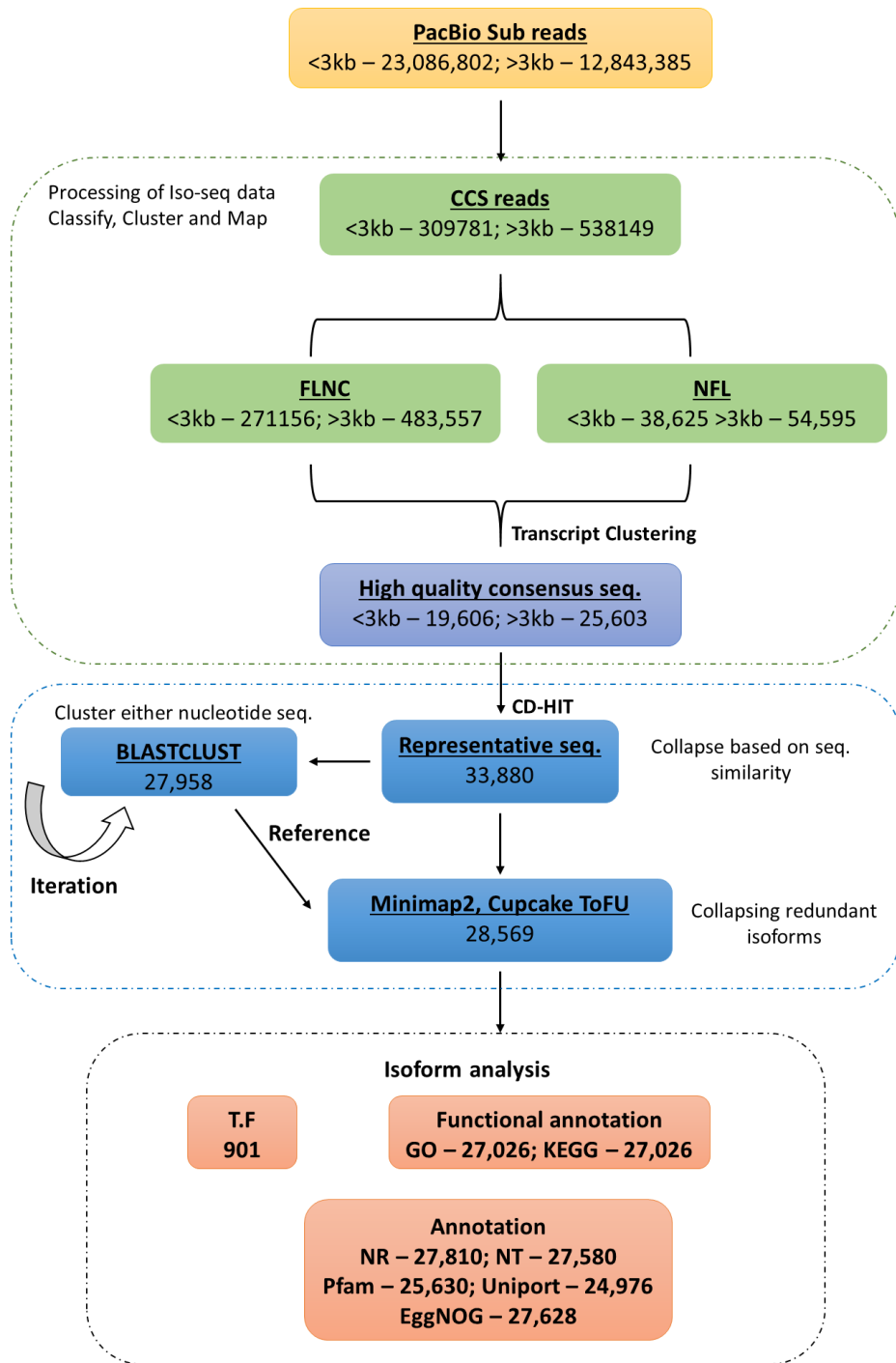
No.	Contig	NR	Pfam	NT
1	FaBabeanB_3kb_HQ_transcript/15951	HVA22-like protein a isoform X1 [Medicago truncatula]	PF03134	<i>Medicago truncatula</i> TB2/DP1, HVA22 family protein mRNA

Supplementary Table 6. Primer information used for expression analysis

Primer Name	Primer sequences (5' →3')
WCOR413_15785	(F) TGT GCA ACA AGA AAG CAA GC (R) CAG TTC GTG CAT TTG CAG TT
DHN2_12403	(F) CCA CTC ATC AAT ATC GGT CAC (R) TTG ACT ATA CAT GCA CAC ATC AAA A
DHN2_14197	(F) GGC CTT GTG TGG TGA TTT CT (R) GAA CCA AAC ACA TAT CAT CAA GA
DHN2_14797	(F) GCG CTC TCT CAT CTC TCA GC (R) CTG ATT CTC CTC AGC CAT GAT
COR15_14478	(F) TGG ACA AGG GAA GAC TCC AC (R) CAG ACA TAA GGT AAA TGC ATC CAA



Supplementary Figure 1. Summary of a) Polymerase read length distribution b) Subread length distribution c) CCS read length distribution; Number of passes; Read length of consensus isoform reads; Average Quality value of HQ and LQ isoforms



Supplementary Figure 2. Basic Iso-seq workflow