Genome-wide analysis of cotton miRNAs during whitefly infestation offers new insights into plant-herbivore interaction

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Supplementary Figures

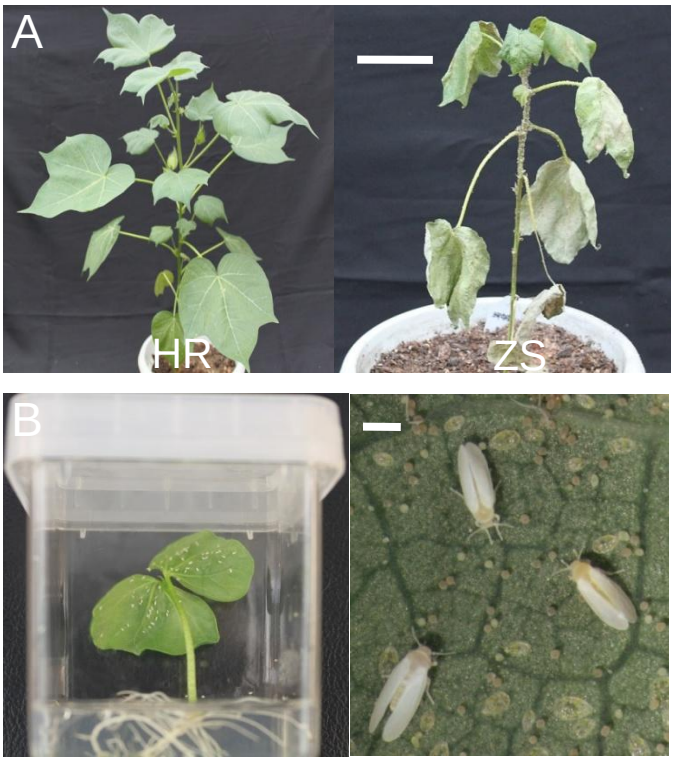

Figure S1. The phenotype during the whitefly infestation resistant and susceptible cotton cultivar. (A) The phenotype of HR and ZS cultivar after infestation 1 month. (B) The cotton plants infested by whitefly in a sealed chamber box.

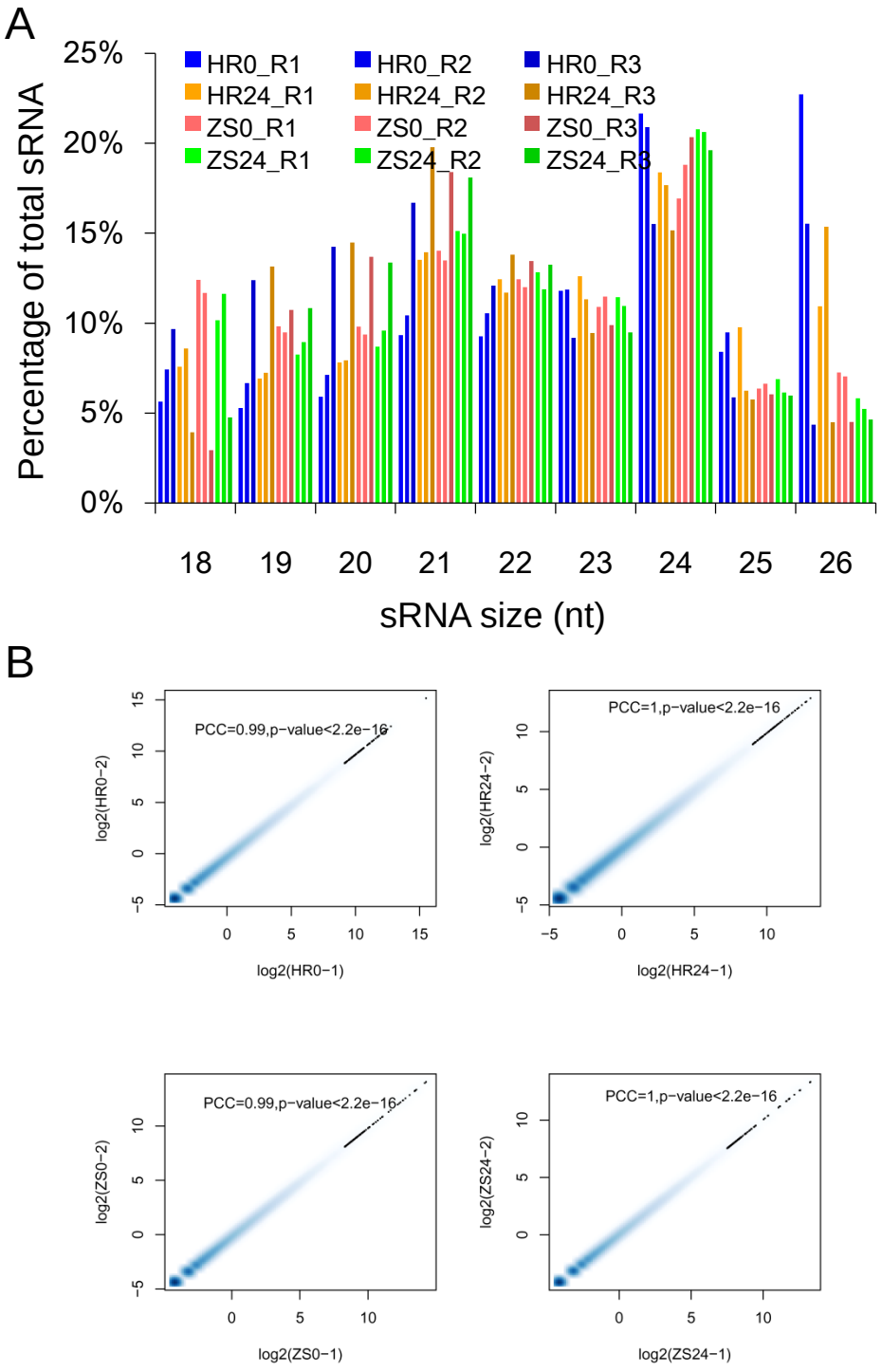

Figure S2. Distribution of sRNA reads in twelve libraries. (A) Distribution of total read lengths present in the three biological replicates. (B) All sRNA (miRNAs + siRNAs) expression level correlations were calculated by PCC in the two biological replicates.

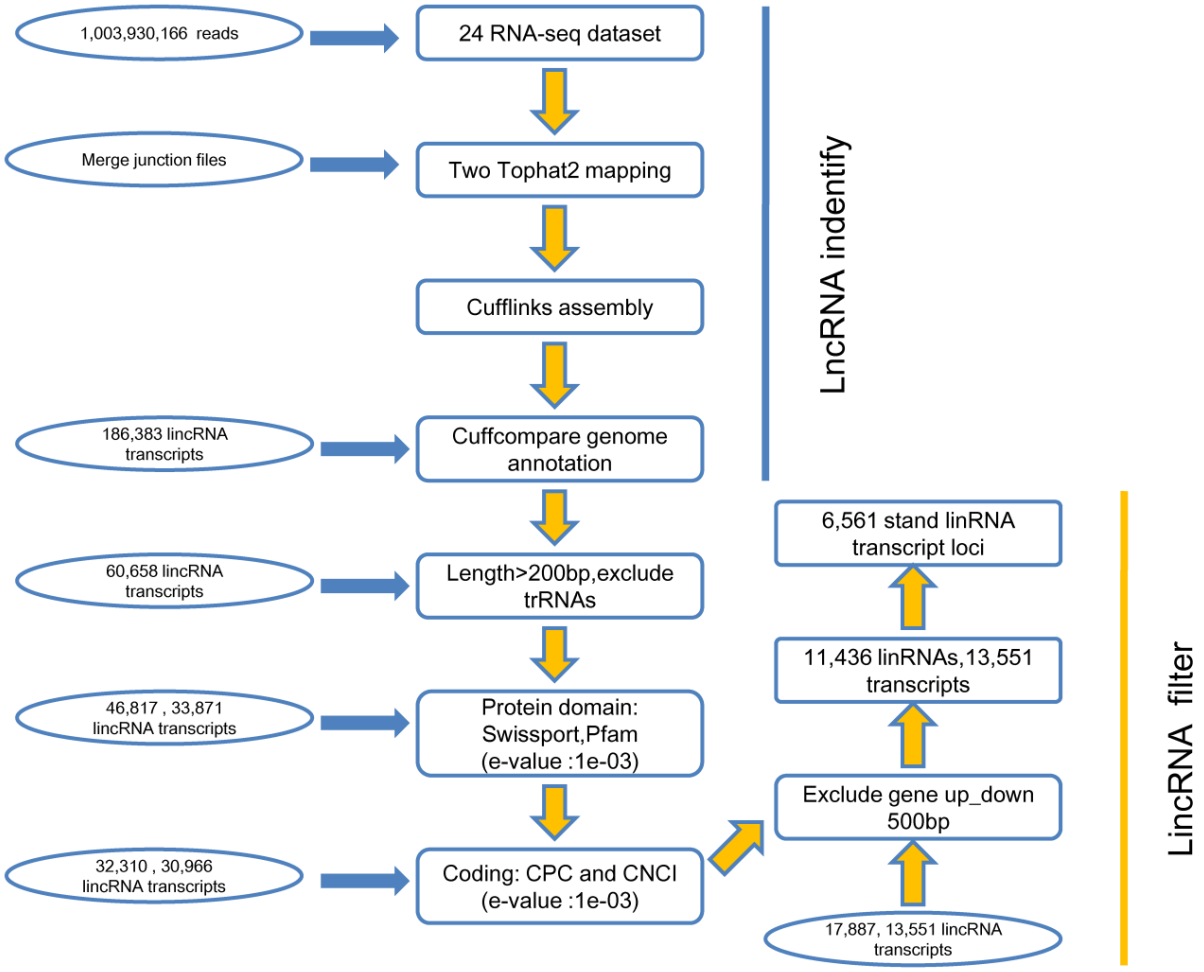

Figure S3. Schematic diagram of the integrative pipeline used for systematic identification of lincRNAs.

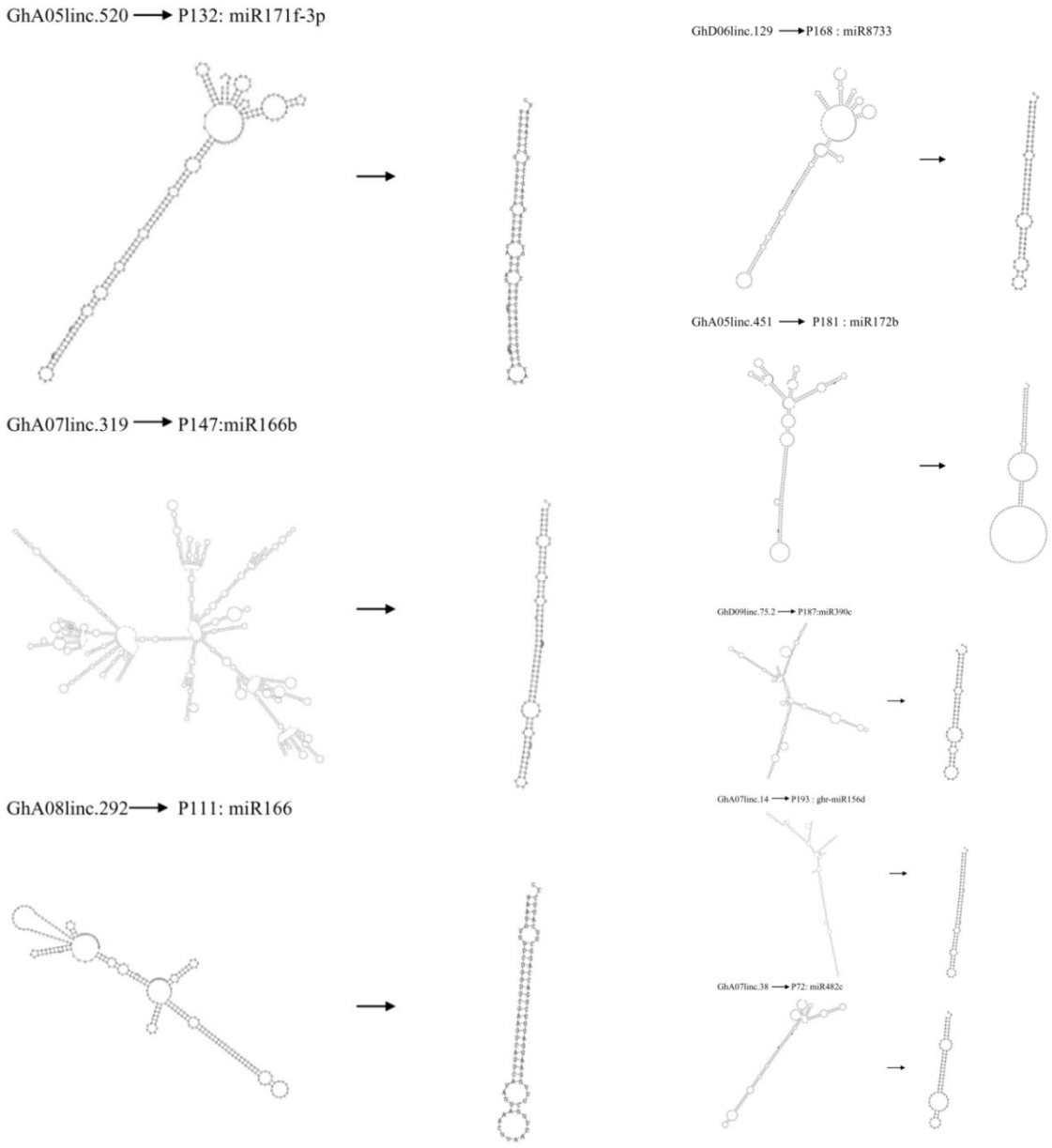

Figure S4. Conserved miRNA precursors generated by lincRNAs.

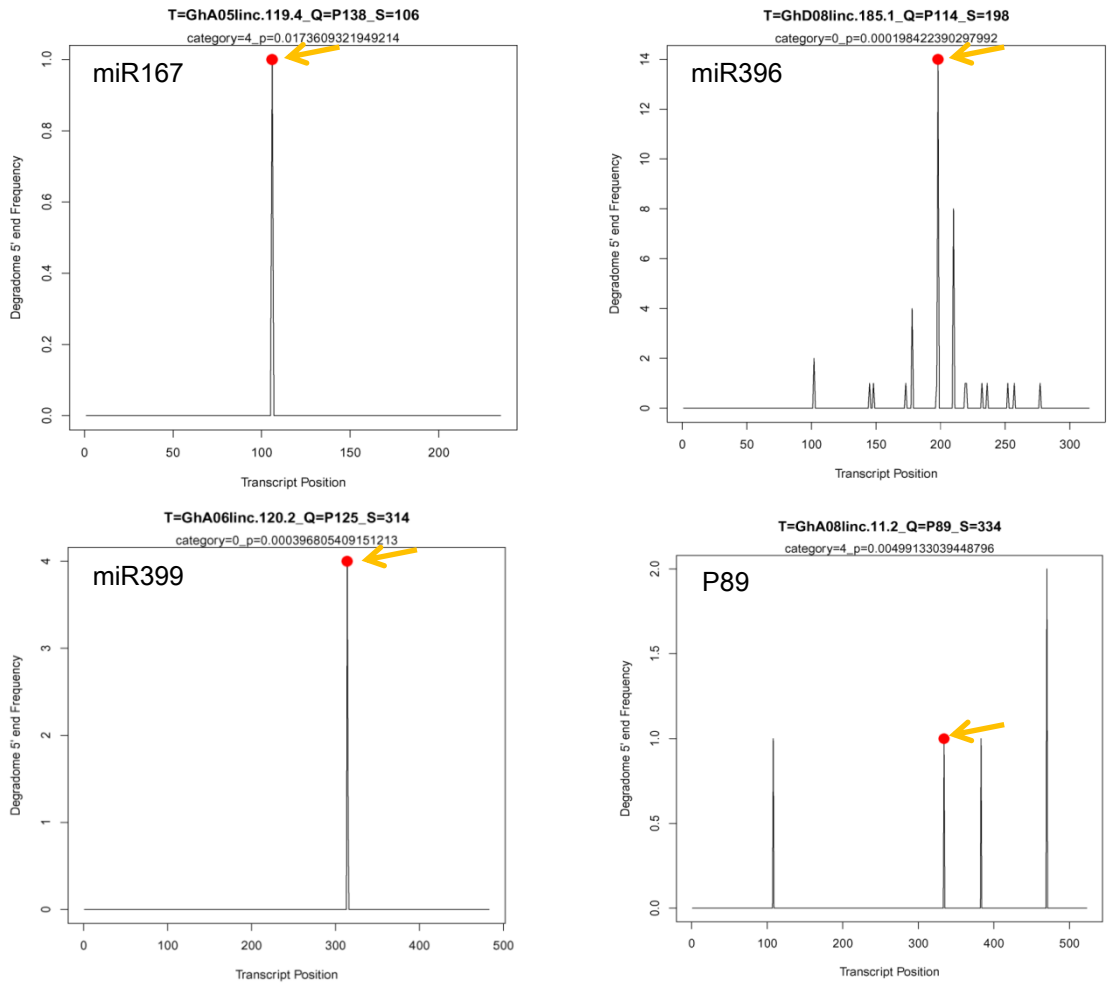

Figure S5. T-plots of the cotton miRNAs targeted by lincRNAs.

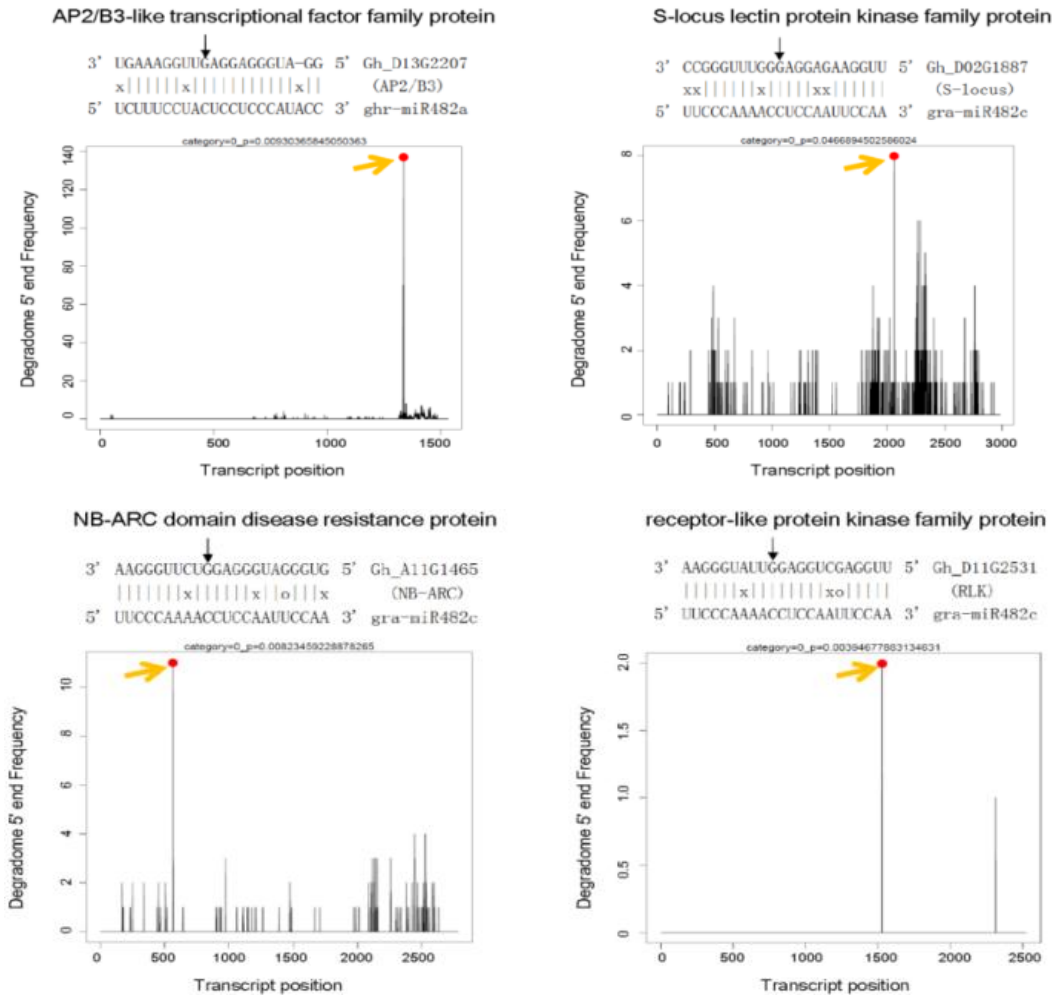

Figure S6. miR482 targets were confirmed by degradome sequencing.

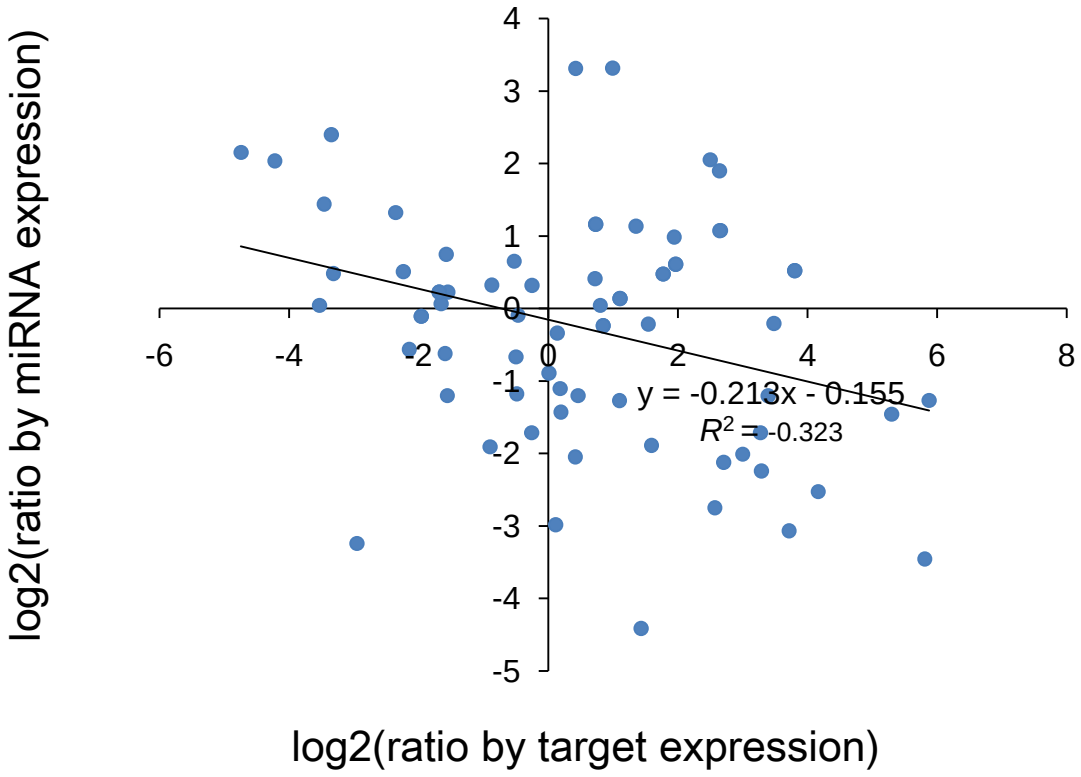

Figure S7. The expression of correlation between miRNA and their target gene.

PHAS_ID	Nearby gene	start	end	Region	miRBase21	miRNA_ length	Target_ annotation	No.of siRNA
PHAS1	Gh_A10G0412	4109823	4110172	Coverexon	P138: miR167b	21nt	ARF8	6
PHAS2	Gh_D10G0426	4000280	4000629	Coverexon	P138: miR167b	21nt	ARF8	6
PHAS3	Gh_D07G1901	46743778	46744190	intergenic	P187: miR390c	21nt	TAS3	11
PHAS4	Gh_A10G1561	85166412	85166845	intergenic	P187: miR390c	21nt	TAS3	14
PHAS5	Gh_A06G0606	15588866	15589509	exon	P73	22nt	NB-ARC	9
PHAS6	Gh_D06G0687	11881265	11881656	exon	P73	22nt	NB-ARC	10
PHAS7	Gh_A05G2533	35115948	35116255	exon	P81	22nt	NB-ARC	5
PHAS8	Gh_A11G0364	3393149	3393750	exon	P79: miR482a	22nt	CC-NBS-LRR	16
PHAS9	Gh_D13G2207	58191228	58191535	exon	P80: miR482a	22nt	AP2/B3	8

Figure S8. *PHAS* genes triggered by miRNAs identified in this report

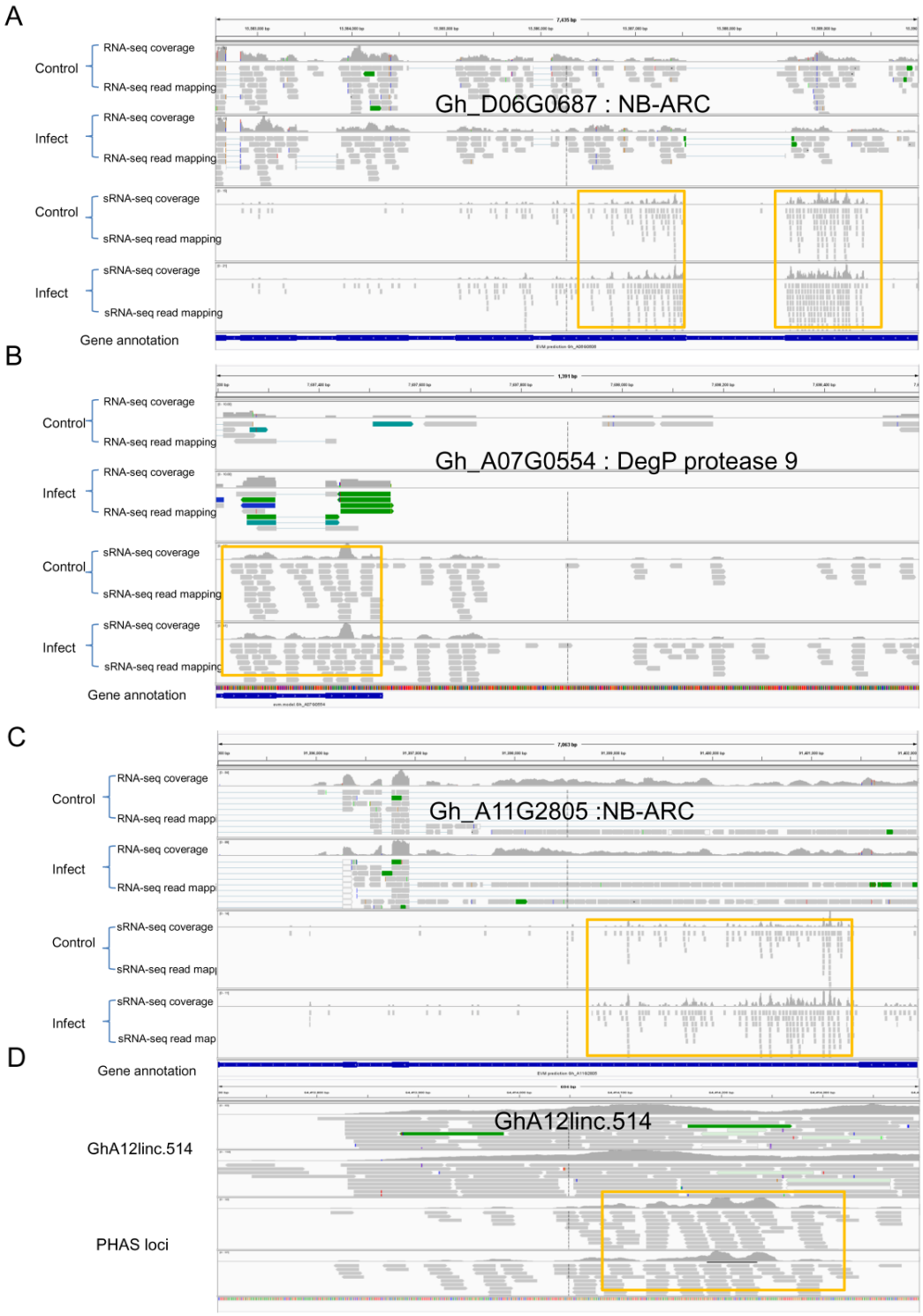

Figure S9. PhasiRNAs generated from different cotton genome regions. A *NB-LRR* protein generated phasiRNA loci in two alternative exons by a novel *P73* miRNA trigger. B Deg P protease-generated siRNAs from exon-intron-exon junctions. C *NB-LRR* protein generated siRNAs from a *bona fide* intron. D lincRNA-generated phasiRNAs.

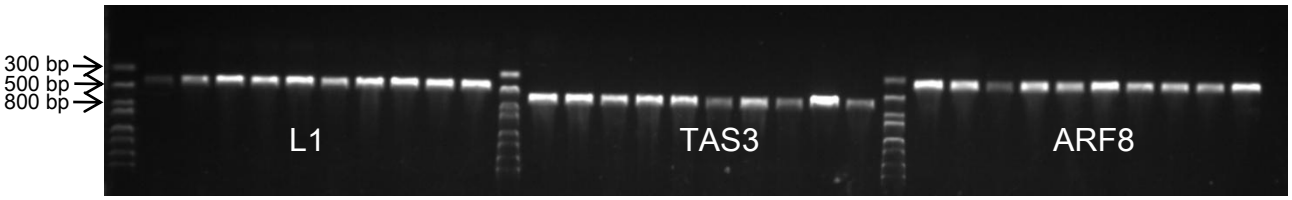

Figure S10. The VIGS vector construction.