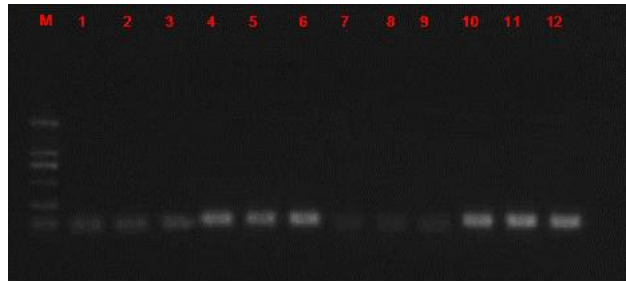


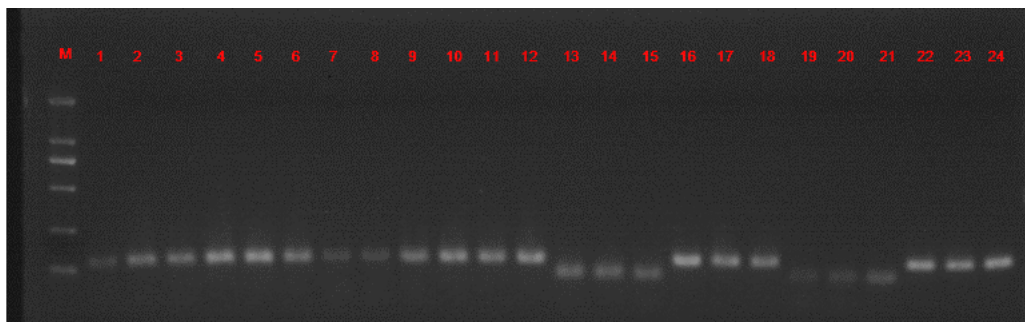
Supplementary Table S1. Primers used in the present study.

Name	Sequence (5'-3')	Purpose
<i>CsABCA3</i> -F	TAATACGCCCCTGAGAATAGC	gene clone
<i>CsABCA3</i> -R	TTATAACGTCGTTTCGCCTTC	
<i>CsABCC1</i> -F	ATGCCAAAGACACAGGAA	
<i>CsABCC1</i> -R	GTATTTGCGACTGTTTTACAC	
<i>CsABCC3</i> -F	ATGGAAAAACCAAGTGAA	
<i>CsABCC3</i> -R	TCACTGTGGATTATCCTC	
<i>CsABCD2</i> -F	AGTGGCAGCTCGATAAGT	
<i>CsABCD2</i> -R	GCCACAATCAAGTCCAAT	
<i>CsABCA3</i> -F2	GGGATGGTGCTGCTCCAGAT	semi-quantitative PCR
<i>CsABCA3</i> -R2	CCTTCAGCAAGGGACAACGG	
<i>CsABCC1</i> -F2	GCTATGGAAGGAGCGCAAGC	
<i>CsABCC1</i> -R2	GCAACTCCACCGCTGTTTCC	
<i>CsABCC3</i> -F2	TGTACGCCTGGGAGAAACCC	
<i>CsABCC3</i> -R2	GCCTTCCTCAGGGCACTCAT	
<i>CsABCD2</i> -F2	ATGCCGGCGATACTGACGAA	
<i>CsABCD2</i> -R2	TCGTTCCATACAGGGCGCAT	
<i>CsEF 1-α</i> -F	TGAACCCCCATACAGCGAATCC	
<i>CsEF 1-α</i> -R	TCTCCGTGCCAACCAGAAATAGG	
dsRNA- <i>ABCC1</i> -F	CAGATCTACACCACCTTATTTTT	amplification of dsRNA
dsRNA- <i>ABCC1</i> -R	ATACAATTTCTCCCTTAGATGG	
dsRNA- <i>ABCC3</i> -F	GCCCTGTATTTCGGCATGATTAAT	
dsRNA- <i>ABCC3</i> -R	TCAACATTCAAATTCGTTAGCAC	
dsRNA- <i>GFP</i> -F	AAGTTCAGCGTGTCGGC	
dsRNA- <i>GFP</i> -R	CACCTTGATGCCGTTCTTC	



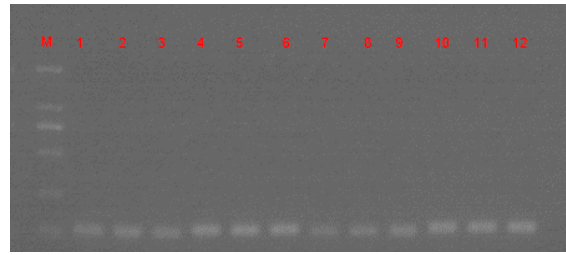
Supplementary Figure S1. Expression validation gel for *CsABCC1*.

Lane M: 2K DNA Marker; lanes 1–3: three replicates amplified using the *CsABCC1* primer sets in RSB-ZJ; lanes 4–6: three replicates amplified using the *CsEF 1-α* primer sets in RSB-ZJ; lanes 7–9: three replicates amplified using the *CsABCC1* primer sets in RSB-LAB; lanes 10–12: three replicates amplified using the *CsEF 1-α* primer sets in RSB-LAB.



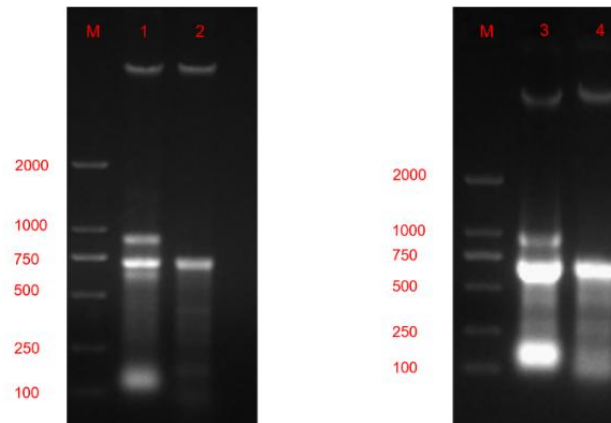
Supplementary Figure S2. Expression validation gel for *CsABCA3* and *CsABCC3*.

Lane M: 2K DNA Marker; lanes 1–3: three replicates amplified using the *CsABCA3* primer sets in RSB-ZJ; lanes 4–6: three replicates amplified using the *CsEF 1-α* primer sets in RSB-ZJ; lanes 7–9: three replicates amplified using the *CsABCA3* primer sets in RSB-LAB; lanes 10–12: three replicates amplified using the *CsEF 1-α* primer sets in RSB-LAB; lanes 13–15: three replicates amplified using the *CsABCC3* primer sets in RSB-ZJ; lanes 16–18: three replicates amplified using the *CsEF 1-α* primer sets in RSB-ZJ; lanes 19–21: three replicates amplified using the *CsABCC3* primer sets in RSB-LAB; lanes 22–24: three replicates amplified using the *CsEF 1-α* primer sets in RSB-LAB.



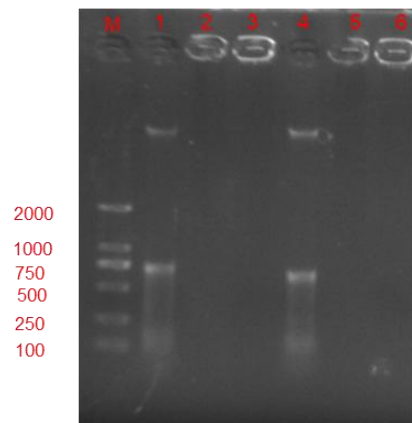
Supplementary Figure S3. Expression validation gel for *CsABCD2*.

Lane M: 2K DNA Marker; lanes 1–3: three replicates amplified using the *CsABCD2* primer sets in RSB-ZJ; lanes 4–6: three replicates amplified using the *CsEF 1-α* primer sets in RSB-ZJ; lanes 7–9: three replicates amplified using the *CsABCD2* primer sets in RSB-LAB; lanes 10–12: three replicates amplified using the *CsEF 1-α* primer sets in RSB-LAB.



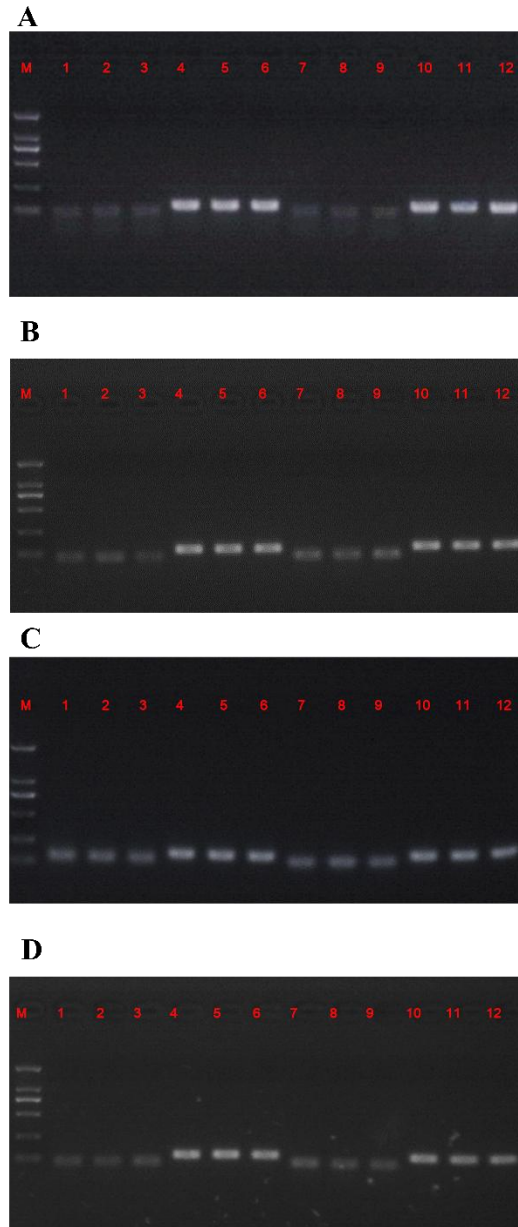
Supplementary Figure S4. Electrophoresis detection of dsRNA expressed by HT115 cells.

Lane M: 2K DNA Marker; lanes 1, 3 represent the total nucleic acid of ds*ABCCI* and ds*ABCC3* expressed by HT115 cells, respectively. Five bands can be observed, corresponding to DNA, 23S rRNA, 16S rRNA, dsRNA, and 5S rRNA from top to bottom. Lanes 2, 4 represent the total nucleic acid of ds*ABCC3* and ds*ABCD2* expressed by HT115 cells after treating with RNase, respectively. Two bands can be observed, corresponding to DNA and dsRNA from top to bottom.



Supplementary Figure S5. Electrophoretic detection of chitosan effectively coating dsRNA.

Lane M: 2K DNA Marker; lanes 1 and 4 represent the total nucleic acid of *dsABCC1* and *dsABCC3* expressed by HT115 cells after treating with RNase, respectively. Two bands can be observed, corresponding to DNA and dsRNA from top to bottom. Lanes 2 and 5 contain chitosan only; lanes 3 and 6 show the bands for chitosan-coated total nucleic acid of *dsABCC1* and *dsABCC3* expressed by HT115 cells after treating with RNase, respectively.



Supplementary Figure S6. RNAi knockdown verification.

(A) Naked dsABCCI—Lane M: 2K DNA Marker; lanes 1–3: three replicates amplified using the *CsABCCI* primer sets in the control group; lanes 4–6: three replicates amplified using the *CsEF 1-α* primer sets in the control group; lanes 7–9: three replicates amplified using the *CsABCCI* primer sets in the treatment group; lanes 10–12: three replicates amplified using the *CsEF 1-α* primer sets in the treatment group.

(B) Chitosan-coated dsABCCI—Lane M: 2K DNA Marker; lanes 1–3: three replicates amplified using the *CsABCCI* primer sets in the treatment group; lanes 4–6: three replicates amplified using the *CsEF 1-α* primer sets in the treatment group; lanes 7–9: three replicates amplified using the *CsABCCI* primer sets in the control group; lanes 10–12: three replicates amplified using the *CsEF 1-α* primer sets in the control group.

(C) Naked dsABCC3—Lane M: 2K DNA Marker; lanes 1–3: three replicates amplified using the *CsABCC3* primer sets in the treatment group; lanes 4–6: three replicates amplified using the *CsEF 1-α* primer sets in the treatment

group; lanes **7–9**: three replicates amplified using the *CsABCC3* primer sets in the control group; lanes **10–12**: three replicates amplified using the *CsEF 1-α* primer sets in the control group.

(D) Chitosan-coated dsABCC3—Lane M: 2K DNA Marker; lanes **1–3**: three replicates amplified using the *CsABCC3* primer sets in the treatment group; lanes **4–6**: three replicates amplified using the *CsEF 1-α* primer sets in the treatment group; lanes **7–9**: three replicates amplified using the *CsABCC3* primer sets in the control group; lanes **10–12**: three replicates amplified using the *CsEF 1-α* primer sets in the control group.