**Table S1.** Primers were used in this study

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| **Primer** | **Sequence (5’-3’)** | **Purpose** |
| 1F | gttgcgatttgtcgtagaaggaaag | Up flank of *CfCFEM19* |
| 2R | CACTAGCTCCAGggtggtaggttgtgtgtgtgttttgg |
| 3F | GGGCAAAGGAAacggcttgatgggctgtttaaaatg | Down flank of *CfCFEM19* |
| 4R | cgggctcttttcgctgcggtttatt |
| HPH-S-F | aacctaccaccCTGGAGCTAGTGGAGGTCAACAA | Up flank of hph gene |
| HPH-X-R | ACTTCGGGGCAGTCCTCG |
| HPH-X-F | GGATGCCTCCGCTCGAAGTA | Down flank of *hph* gene |
| HPH-X2-R | catcaagccgtTTCCTTTGCCCTCGGACGAGT |
| pY11-TY-F | ACTGAGCACCAACGCGAATTG | PCR confirmation of *CfCFEM19* gene complementation |
| g9744-JC-R | TATCTCGCGATATCTGGTGG |
| g9744-JC-F | AGGTTGGGATGTCCCCAACC | Confirming PCR of *hph* gene |
| HPH-JC-R | AGAAGAGGATGTTGGCGACCT |
| g9744-JC-F | AGGTTGGGATGTCCCCAACC | Confirming PCR of *CfCFEM19* gene |
| g9744-JC-R | TATCTCGCGATATCTGGTGG |
| CfCFEM19-HB-F | CATCACCATCACCATCATTGTACGCTAGAGGCCGGTG | Construct the *CfCFEM19*complement strain |
| CfCFEM19-HB-R | AGCTCCTCGCCCTTGCTCACTTAGGGGTTGACGGGAGGG |
| ChtBD1-P1-RT-F | TCCACAAGACTACAGGCA | RT-qPCR for ChtBD1-P1 |
| ChtBD1-P1-RT-R | TCATCGTCCAACAAACAC |
| GAPDH-RT-F | ACCACAAGTCCATGCCATCA | The internal reference gene for RT-qPCR |
| GAPDH-RT-R | TCCACCACCCTGTTGCTGTA |
| TSP-CfCFEM19-F | GGAATTTTAATTAAGAATTCATGAAGATTAGTGCCACTTTCGTCC | Clone CfCFEM19 signal peptide to pSUC2 |
| TSP-CfCFEM19-R | ACTATAGGGAGAACCTCGAGGGGGCCGCCCGCTGAGAC |
| CfCFEM19ΔSP-F | TCAGCACCAGCTAGCATCGATATGGGCGGCCCCAAGAACAA | Clone CfCFEM19ΔSP to pGR106 |
| CfCFEM19ΔSP-R | AACATCGTATGGGTACGCGGCCGCGGATTTACTACGGCAGAGGGA |
| pGR106-ChtBD1-P1-F | CGATTCCCGCATCGATTCCCGGGATGAGGTTTTGCATACTAGTTTTGTTTTCTATCAT | Clone ChtBD1-P1 to pGR106-mCherry  Clone ChtBD1-P1 to pGR106-mCherry |
| pGR106-ChtBD1-P1-R | GCCCTTGCTCACCATGTCGACTTATGCGAAAGGCTGTTGGTTATTGCA |
| pGR106-ChtBD1-P1-F | CGATTCCCGCATCGATTCCCGGGATGAGGTTTTGCATACTAGTTTTGTTTTCTATCAT | Clone ChtBD1-P1 to pGR106-GFP |
| pGR106-ChtBD1-P1-R | TTCTCCTTTGCCCATGTCGACTTATGCGAAAGGCTGTTGGTTATTGCA |
| pGR106-CfCFEM19-F | CGATTCCCGCATCGATTCCCGGGATGAAGATTAGTGCCACTTTCGTCC | Clone CfCFEM19 to pGR106-GFP |
| pGR106-CfCFEM19-R | TTCTCCTTTGCCCATGTCGACTCAGGATTTACTACGGCAGAGGGAA |
| BD-CfCFEM19-F | ATGGCCATGGAGGCCGAATTCATGAAGATTAGTGCCACTTTCGTCC | Clone CfCFEM19 to pGBKT7 |
| BD-CfCFEM19-R | CCGCTGCAGGTCGACGGATCCTCAGGATTTACTACGGCAGAGGGA |
| AD-ChtBD1-P1-F | GCCATGGAGGCCAGTGAATTCATGAGGTTTTGCATACTAGTTTTGTTTTCTATCATC | Clone ChtBD1-P1 to pGADT7 |
| AD-ChtBD1-P1-R | TCCCGTATCGATGCCCACCCGGGTTATGCGAAAGGCTGTTGGTTATTGCAA |
| PTriEx-CfCFEM19-F | GATATCTGAGCTCGTGGATCCATGAAGATTAGTGCCACTTTCGTCC | Clone CfCFEM19 to pTriEx-4 EkLIC |
| pTriEx-CfCFEM19-R | CGCGCCGAGATCTGAGAATTCTCAGGATTTACTACGGCAGAGGGAA |
| pGEX-ChtBD1-P1-F | CCGCGTGGATCCCCGGAATTCATGAGGTTTTGCATACTAGTTTTGTTTTCTATCATC | Clone ChtBD1-P1 to pGEX-4T-1 |
| pGEX-ChtBD1-P1-R | GATGCGGCCGCTCGAGTCGACTTATGCGAAAGGCTGTTGGTTATTGCA |
| pC1300-CfCFEM19-F | tggagagaacacgggggacgagctcATGAAGATTAGTGCCACTTTCGTCC | Clone CfCFEM19 to pCAMBIA1300-nLUC |
| pC1300-CfCFEM19-R | cgcgtacgagatctggtcgacGGATTTACTACGGCAGAGGGAATCG |
| pC1300-ChtBD1-P1-F | acgcgtcccggggcggtaccATGAGGTTTTGCATACTAGTTTTGTTTTCTATCATC | Clone ChtBD1-P1 to pCAMBIA1300-cLUC |
| pC1300-ChtBD1-P1-R | agctctgcaggtcgacTTATGCGAAAGGCTGTTGGTTATTGCA |