

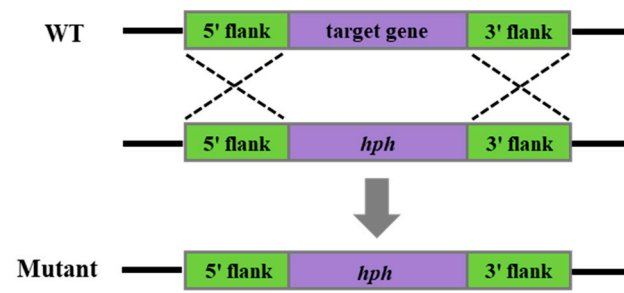
Supplementary Materials

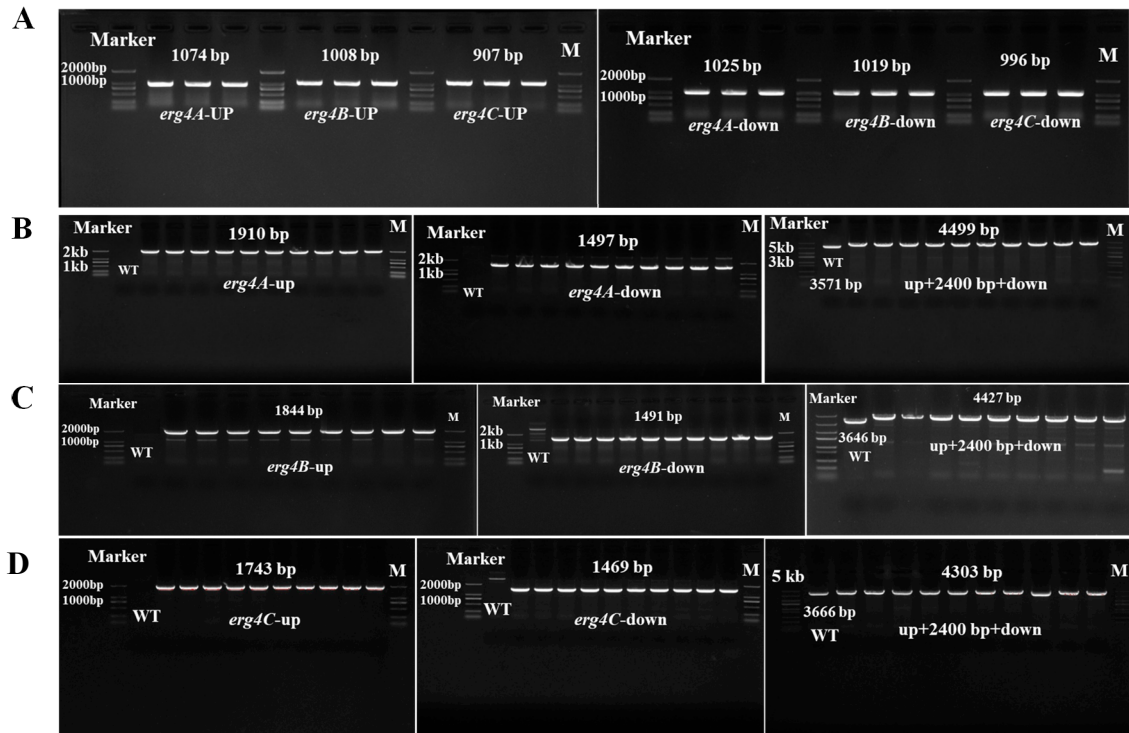
Supplementary Figure S1. Construction of *erg4s* gene deletion mutants.

Supplementary Figure S2. PCR results of gene knockout mutants of *erg4s* in *P. expansum*. The amplification fragments of *erg4A*-up, *erg4B*-up, *erg4C*-up, *erg4A*-down, *erg4B*-down, *erg4C*-down from *P. expansum*, respectively (A). The PCR identification of $\Delta erg4A$ (B), $\Delta erg4B$ (C) and $\Delta erg4C$ (D).

Supplementary Table S1. The primers used for the construction and identification of gene deletion mutants and complementation strains.

Supplementary Table S2. Primers used for RT-qPCR.





Name	Primer sequence (5' - 3')
<i>erg4A</i> -up-F	ACAGCTATGACCATGATTACGAATTCAGTAAACTCCTCCAACGAA
<i>erg4A</i> -up-R	GATCCCCGGGTACCGAGCTCGAATTCCTCACTCCTGGCAGTATGT
<i>erg4A</i> -down-F	TTGCCTAACTCGGCGCGCCGAAGCTT GTTCAAGTTTGTTCGTCG
<i>erg4A</i> -down-R	GTAAAACGACGGCCAGTGCCAAGCTTGAGGGCACCAATAATAAGA
<i>erg4B</i> -up-F	ACAGCTATGACCATGATTACGAATTC CGTCACGGTCACAAAGGA
<i>erg4B</i> -up-R	GATCCCCGGGTACCGAGCTC GAATTC CACTGGCTGCACGGATAT
<i>erg4B</i> -down-F	TTGCCTAACTCGGCGCGCCGAAGCTT AGGAGAAGTGCGAGAAGA
<i>erg4B</i> -down-R	GTAAAACGACGGCCAGTGCCAAGCTT GACTAACCCGTCACCATT
<i>erg4C</i> -up-F	ACAGCTATGACCATGATTACGAATTC TTACCTTGCCAATCTTCC
<i>erg4C</i> -up-R	GATCCCCGGGTACCGAGCTC GAATTC GACCACCATTGAGCCATA
<i>erg4C</i> -down-F	TTGCCTAACTCGGCGCGCCGAAGCTT CTCAATGAAGCCGGGACG
<i>erg4C</i> -down-R	GTAAAACGACGGCCAGTGCCAAGCTT AGCCTCGATGTTTGTTCG
<i>TrpC</i> -F	TAGAGTAGATGCCGACCGG
<i>OliC</i> -R	CTGAAAGCACGAGATTCTTC
<i>erg4A</i> -F	TCAACTCCATCACATCACAAGAGCTCATGGAGGACCAAGTCAAATC
<i>erg4A</i> -R	AGCTCCTCGCCCTTGCTCACTCTAGAAAAAGAGAAATTGCAGTAG
<i>erg4B</i> -F	TCAACTCCATCACATCACAAGAGCTCATGCCCTCCAAAAAGGACTC
<i>erg4B</i> -R	AGCTCCTCGCCCTTGCTCACTCTAGAGTAAATTCCAGGAATGATGC
<i>erg4C</i> -F	GCATGGACGAGCTGTACAAGGAGCTCATGGATCGTCCCGGCTTCAT
<i>erg4C</i> -R	ATGGAGCTATTAAATCACTATCTAGATTAGAAGACATACTATAGGA
CX1	GGAGA CGTAT TTAGGTGCTA
CX2	TGAACTTCA GGGTCAGCTT
<i>erg4A</i> -GFP-F	ATGGAGGACCAAGTCAAATC
<i>erg4A</i> -GFP-R	AAAAAGAGAA ATTGCAGTAG
<i>erg4B</i> -GFP-F	ATGCCCTCCAAAAAGGACTC
<i>erg4B</i> -GFP-R	GTAAATTCCA GGAATGATGC
<i>erg4C</i> -GFP-F	ATGGATCGTC CCGGCTTCAT
<i>erg4C</i> -GFP-R	TTAGAAGACA TAAGGAATGA

Name	Primer sequence (5' - 3')
<i>erg4A</i> -F	TCCACGAATGTTTCGGAATCC
<i>erg4A</i> -R	AGCTCAAACCCAAGAGCATGA
<i>erg4B</i> -F	CGGCGCTTTATGATACCAATG
<i>erg4B</i> -R	GGGAAGGAAGACCTGCAAAAA
<i>erg4C</i> -F	GCATTCCCATCAATCAAAGCA
<i>erg4C</i> -R	CCGGGAAGAAGCACGTAACA
<i>β-tubulin</i> -F	CTCCAGCTCGAGCGTATGAAC
<i>β-tubulin</i> -R	GGCTCCAAATCGACGAGAAC