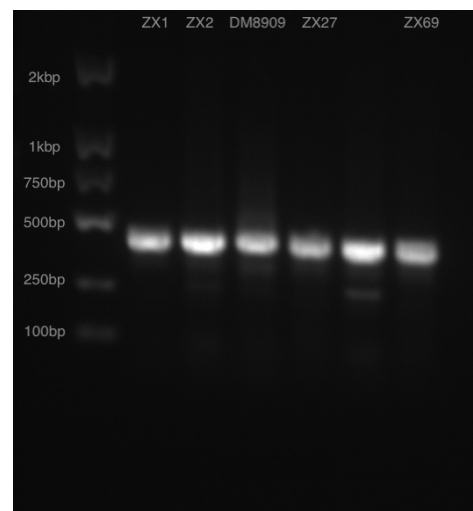


Supplementary material

Supplementary TABLE S1: Primer sequences used for PCR or RT-qPCR assay

Target	PCR primers	Annealing temp. (°C)	Amplicon size (bp)	Ref.
<i>plnA</i>	F: GTA CAG TAC TAA TGG GAG R: CTT ACG CCA ATC TAT ACG	53	450	14
<i>plnB</i>	F: TTC AGA GCA AGC CTA AAT GAC R: GCC ACT GTA ACA CCA TGA C	51.5	165	14
<i>plnC</i>	F:AGC AGA TGA AAT TCG GCA G R: ATA ATC CAA CGG TGC AAT CC	49.5	108	14
<i>plnD</i>	F: TGA GGA CAA ACA GAC TGG AC R: GCA TCG GAA AAA TTG CGG ATA C	53	414	14
<i>plnEF</i>	F: GGC ATA GTT AAA ATT CCC CCC R:CAG GTT GCC GCA AAA AAA G	53.2	428	14
<i>plnI</i>	F: CTC GAC GGT GAA ATT AGG TGT AAG R: CGT TTA TCC TAT CCT CTA AGC ATT GG	52.5	450	14
<i>plnJ</i>	F: TAA CGA CGG ATT GCT CTG R: AAT CAA GGA ATT ATC ACA TTA GTC	51	475	14
<i>plnK</i>	F:CTG TAA GCA TTG CTA ACC AAT C R: ACT GCT GAC GCT GAA AAG	52.9	246	14
<i>plnG</i>	F:TGC GGT TAT CAG TAT GTC AAA G R: CCT CGA AAC AAT TTC CCC C	52.8	453	14
<i>plnN</i>	F:ATT GCC GGG TTA GGT ATC G R: CCT AAA CCA TGC CAT GCA C	51.9	146	14
Plantaricin NC8 structural gene	F: GGT CTG CGT ATA AGC ATC GC R: AAA TTG AAC ATA TGG GTG CTT TAA ATT CC	60	207	14
Plantaricin S structural gene	F: GCC TTA CCA GCG TAA TGC CC R: CTG GTG ATG CAA TCG TTA GTT T	60	320	14
Plantaricin W structural gene	F: TCA CAC GAA ATA TTC CA R: GGC AAG CGT AAG AAA TAA ATG AG	55	165	14
<i>entA</i>	F:AAA TAT TAT GGA GTG TAT R:GCA CTT CCC TGG AAT TGC TC	56	159	15
<i>gasA</i>	F: GAA CAG GTG CAC TAA TCG GT R: CAG CTA AGT TAG AAG GGG CT	62	800	16
<i>laf</i>	F:AGT CGT TGT TGG TGG AAG AAA T R:TCT TAT CTT GCC AAA ACC ACC T	62	184	17
<i>HMPREF0424_1122</i>	F: CAGCACCTGTAGCTCCAACA R:TGGCTCAAGAGATTGTGTGC	60	195	19
<i>HMPREF0424_0156</i>	F: CCGACCGCATACTATTTTG R: GCAAGACGGTCTCCAAACTC	60	178	19
<i>HMPREF0424_0354</i>	F: AACCAAGCAATTCCACAAGC R: CCGTCGTTTTGGCAGTATTT	60	199	19
<i>16S RNA</i>	F: TGAGTAATGCGTGACCAACC R: AGCCTAGGTGGGCCATTACC	60	167	19

The primers of *plnA* to *laf* were used to detect the the plantaricin-related genes in the five newly isolated strains. The primers *HMPREF0424_1122* to *16S RNA* were used to detect the virulence genes in *G. vaginalis*.

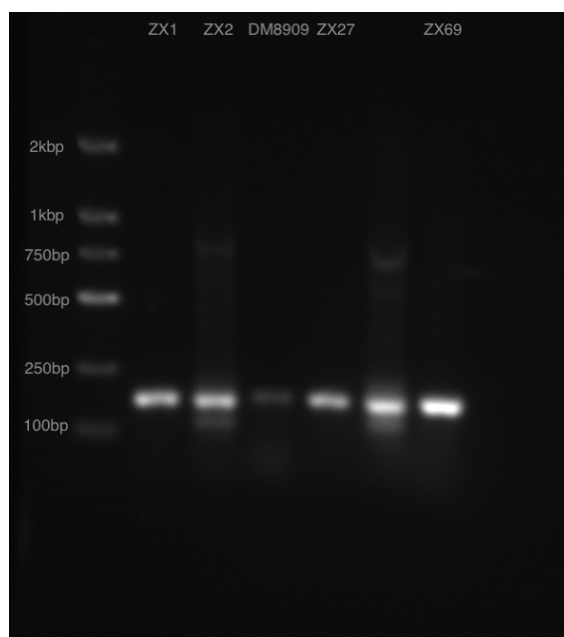


Supplementary FIGURE S1: The *plnA* gene detection results of 5 strains.

The sequencing results of the *plnA*(450bp) are the following:

nAsTnttdSsTCTTACGCCATCTATACGAAATATAACTTGAAAAACAGTTATT
 CAATAAATCAATTACCATCCCCATTTTTTAAACAGTTTCTTTACCTGTTTAA
 TTGCAGTTGCCCCCATCTGCAAAGAATACGCACTACTCTTTCCACCTACTA
 TTTTTTGCATTTCTTATTACTAAGTTGCTTCATACCTTTAATTTGAATTTTC
 ATAATAATCACCTCGCTTTTAGGATAATGTGTTTTTTGAAGTACGGAGGAAT
 TATTTCTATTAACGTACATTTTTTAAATTTAAACGTGAATCACCATGAAAT
 TCCAACATATGCTATCAATCAATATTTGATGAATGTCAAAGTCACTATTTTG
 AATAGATCTTGATTACTTTGAACATACTTAGAGGATAAAATAACATTAACT
 TAAGTGTAGCGCTAAAGAATTCAAGATAAACTCCCATTAGTAACTGTACA
 AAA

The similarity index of the five strains sequence to *plnA* sequence in NCBI was 98.8%.

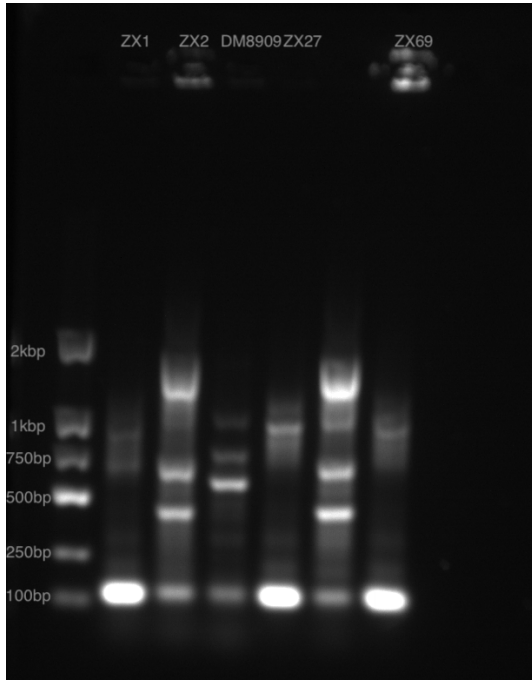


Supplementary FIGURE S2: The *plnB* gene detection results of 5 strains.

The sequencing results of the *plnB*(165bp) are the following:

nBsTnttdSsGATATCTGCCACTGTAACACCATGACTGAGAATAAAGTCAGTG
 TTAGCTATTTCAATCGTCAACTTAACCCCGCACTGTTTCGCATAAAAAAAC
 TTCTGTACAATAACCCGCGCAATATCTCATTCTTCAGATGctGAACACTT
 GCAAAGCTACCGTCATTTAGGCTAGCTCTGAAAACAA

The similarity index of the five strains sequence to *plnB* sequence in NCBI was 91.0%.

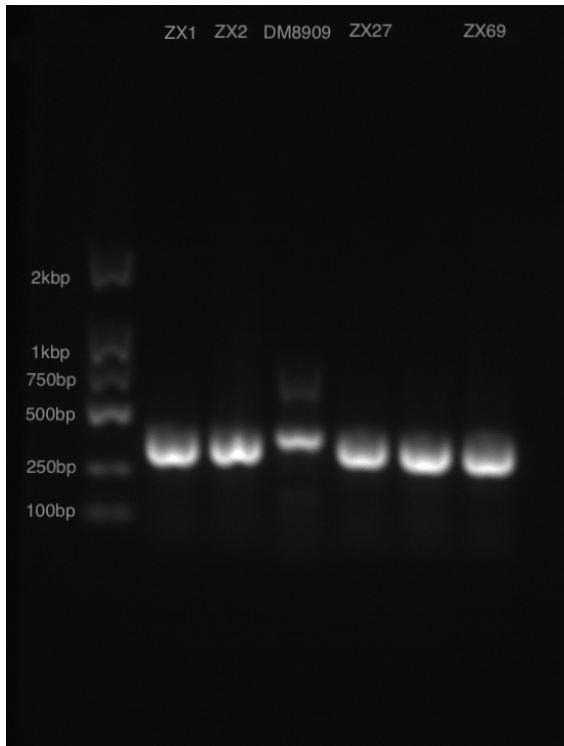


Supplementary FIGURE S3: The *plnC* gene detection results of 5 strains.

The sequencing results of the *plnC*(108bp) are the following:

TATCGATAATCCAACGGTGCAATCCGCCGCTCCAGTGTCAAAAAAGATAA
 CTCTTCATGAGTTGTAATAAATAACAATTTGTGCACAAGGTAAGTCTGCCG
 AATTCATCTGCTCGA

The similarity index of the five strains sequence to *plnC* sequence in NCBI was 96.5%.

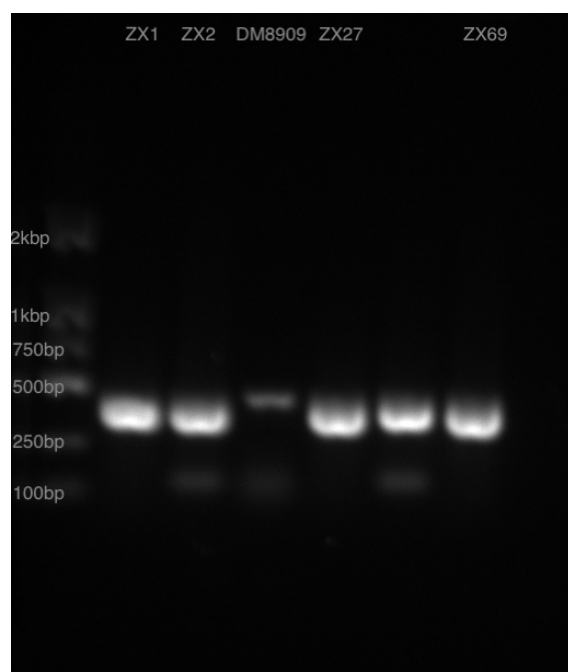


Supplementary FIGURE S4: The *plnD* gene detection results of 5 strains.

The sequencing results of the *plnD*(414bp) are the following:

```
TGCATCGGAAAAAATTGCGGATACTTTTCTTCGAGCGCATTAAATTCCT
GGGAACTCAGCAACCTTATTAATAGCATGGAGTTGTACGCTGCCC GGACG
CAGTTTAGATGTACTCAACAAAATCACATCATCTAATGCGAGTGAAAAGT
ATCGCGTTCCTAACTTATAGTTAAAAACATCTTTGCGCTGACTATTAGTCT
TTTTTAATTCGTTCTGTACTACATTGATGTCCTTAATAATCCTTTGCGTAAT
TAGGTCAGCAGACTGGTCTTTCAAATATAATCCAACGGTGCAATCCGCC
GTTCCAGAGTTACAAACGATAGCTCATCGTGTGTTGTAATGAAA ACTATTT
TAGCCAATGGTATCGTtGCCCGAaTtCgACTGGCTAATTCAAGTCCAGTCTG
TTTTGTCCTCAA
```

The similarity index of the five strains sequence to *plnD* sequence in NCBI was 98.1%.

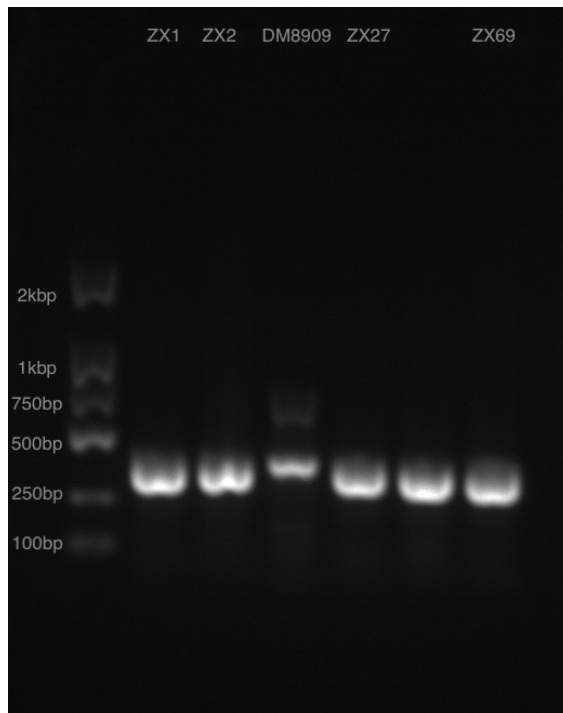


Supplementary FIGURE S5: The *plnEF* gene detection results of 5 strains.

The sequencing results of the *plnEF*(428bp) are the following:

```
TCAGGTTGCCCGCAAAAAAAGCTTGCCAAAATATCTGGTGGTTTTAATCG
GGGCGGTTATAACTTTGGTAAAAGTGTTTCGACATGTTGTTGATGCAATTGG
TTCAGTTGCAGGCATTCGTGGTATTTTGAAAAGTATTCGTTAATTTTCTTG
GGGAGATCAACAATTATGAAAAAATTTCTAGTTTTGCGTGACCGTGAAT
TAAATGCTATTTTCAGGTGGCGTTTTCCATGCCTATAGCGCGCGTGCCGTTT
GGAATAATTATAAAAAGTGCTGTTGGGCCTGCCGACTGGGTCATTAGCGCT
GTCCGAGGATTCATCCACGGATAGTTCAAGCCATCAAGTTTAAGCACTAT
AAGAAAGCACTCGATTTATGACTGGGCCTGCAGTGCTCAGCεTTTTTAGTT
TATATGGGGGAATTTAAA ACTATGCC
```

The similarity index of the five strains sequence to *plnEF* sequence in NCBI was 99.4%.

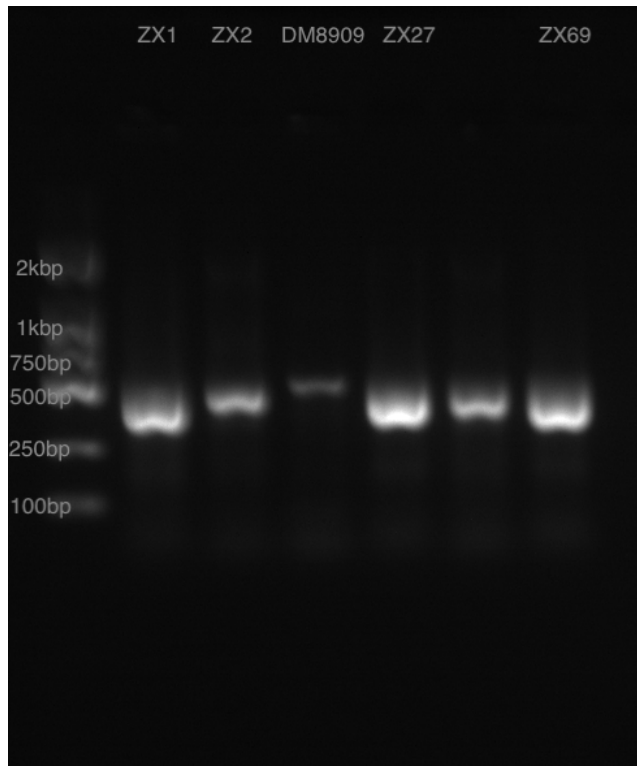


Supplementary FIGURE S6: The *plnI* gene detection results of 5 strains.

The sequencing results of the *plnI*(450bp) are the following:

```
GCTTCGTTTATCCTTCCTCTAAGCATTGGAAGTTaTTGAGTaTCcTAAaTATT
GaAGATAAAATAGACGAGTAATCATCCATTCTGAATTCCTATAAATTATTG
TTTGCAGCACTACAATTTCAATTATCTCTGAAGTTTTGGGTTACGCTAAGA
GCTAGTCATATCGCTAGCTAAATTTACGTCTTAACGCTATGCTAATATAC
TTTACGATCGAGTACTGTGCTTACTTTTTAGTCATTTTAATACTCATAAGAT
CACAATTAGAGCCCTACTCCAACCTATCTTCAGCGCCTATATTATATAATCA
GATTCATATTCATAACAAAAGAGCCCTGTCAAATAACACTGACAGAAGC
TCTAAATAATATTAATAAAACTAGTTGTCTCTCAACAACTtAttCAATtCCCG
CGACTTTCTAAACGAAGCCTTACACCTAATTTACCCGTCGAGA
```

The similarity index of the five strains sequence to *plnI* sequence in NCBI was 96.1%.



Supplementary FIGURE S7: The *plnJ* gene detection results of 5 strains.

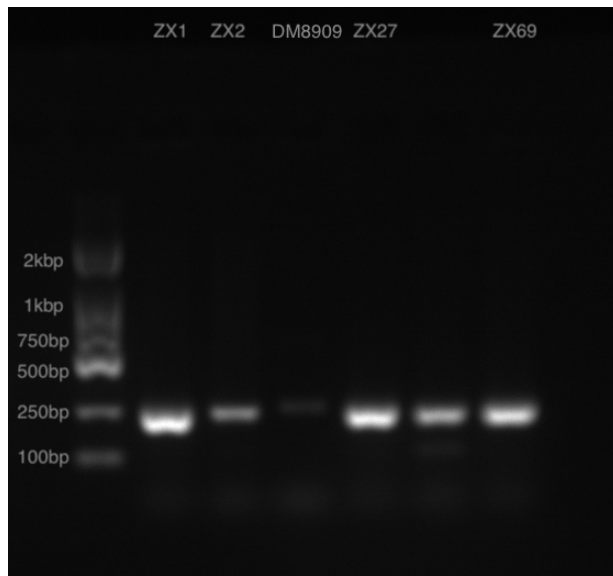
The sequencing results of the *plnJ*(475bp) are the following:

```

TTAACGACGGGATGCTCTGCCAGCTTCGCCATCATAAAAATCCTTTTCTTAA
ACTAGACCAGAAATTTTTCCAAGCGCCTCCCCCAACAACCCCGTTCAACTT
ATTATTAGAAATAGGTGCAAATGCATCTACTACATCCAAATCCTTAATCAT
TTGTTCACAGTCATACCTCTCCCTTACTGTAGCAGTTAAAAATGGTTCT
ATGCGCTACGTATTTTAAATGCACTTATTAATATACGCTACAATTTAAAAA
AAATTATTTTAAATTTGTTATCGTACTATTTAATCGATTTAACGTAACCTTGA
AAGTTGAATGTCTGACGATCCCATAACATTAATGGGATTATTTTTGCTATG
ACGAATTGTTAAATTAAGTGCAATATTTTACCAAAGAAAACCTTCACTTGGC
CTTTTTCATTtCAAGCTCTTACGTGGCGATTATTTAAATCTATGACTAATGT
GATATTCCCTTGATTA

```

The similarity index of the five strains sequence to *plnJ* sequence in NCBI was 98.8%.

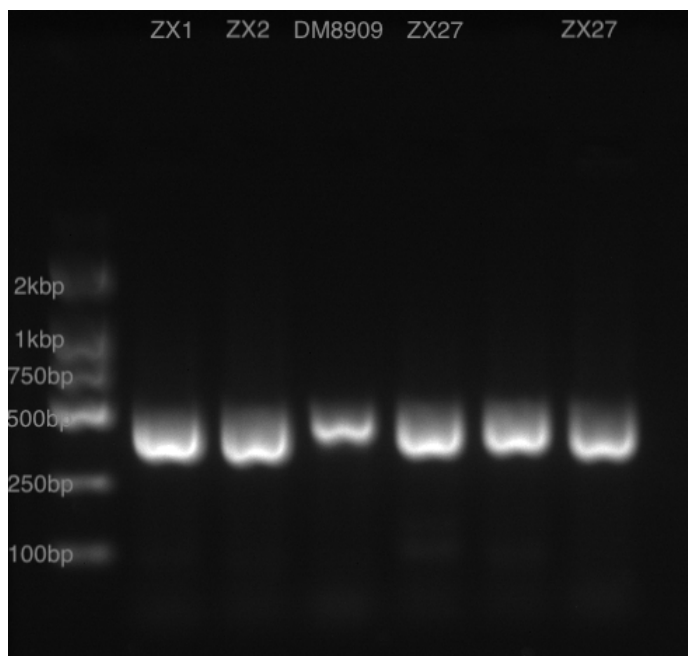


Supplementary FIGURE S8: The *plnK* gene detection results of 5 strains.

The sequencing results of the *plnK*(246bp) are the following:

```
TACTGCTGACGCTGAAAAGAATATTTCTGGTGGCCGTCGGAGTCGTAAAA
ATGGAATTGGATACGCTATTGGTTATGCGTTTGGCGCGGTTGAACGGGCC
GTGCTTGGTGGTTCAAGGGATTATAATAAGTGATAGAAATTGATTTCAA
GAAAAATATTACCCGCTAGTGTTAGTGCTCTTTGTGGCTGGTTATATGGGT
GCCATCTTTCTTAATATTTATTTTGATTGGTTAGCAATGCTTACAGA
```

The similarity index of the five strains sequence to *plnK* sequence in NCBI was 97.7%.



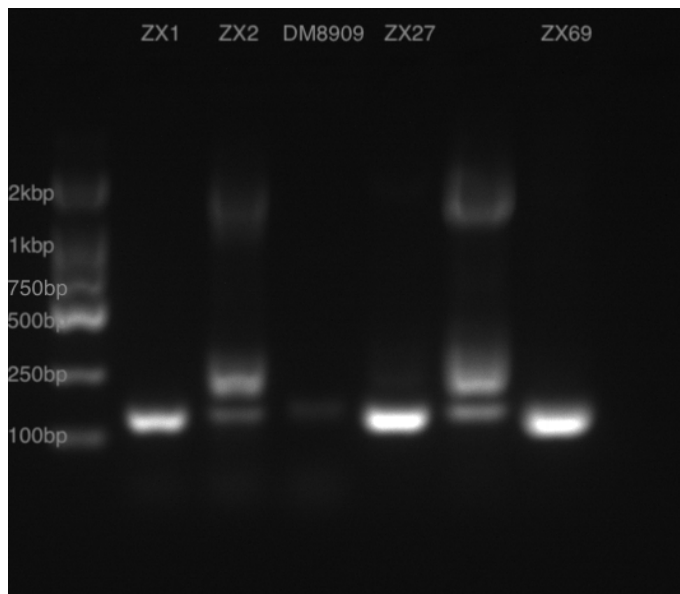
Supplementary FIGURE S9: The *plnG* gene detection results of 5 strains.

The sequencing results of the *plnG*(453bp) are the following:

```
CCTCGAAACCCATTCCCCCGTCCGCCGAGTGGCAAAAAAACTCATTGGCA
ATTCaAAGACGTGCCGAATATAGCCTAAAATAATTTCAATCGAAAGTCGTT
```

GACCTAAAACCGCCAATAAAAAATTCTGGGCATAAGTAAAGATAGCCTGA
 AAGGTATAAAAAACGATTAGACCAATGGCCACCACTGCCAATGTACTGTG
 CATATTATTGGGAATATAAGTATCAATCACCGCTTGTAAGAAATAAGACC
 CACAGATACTAATAATCGTGATTA AAACTGCAGCAAGCACAATATTAATA
 ACCAGTCGGCGCTGCTTTAATAAGCTTGAATAAATCCCCATAGTGAGCC
 CTTATCTTGCTTAACTGGCTTATATTCCGACTTCGGTGCAAAGAAAAGGGC
 AACTCCGGACCATTTCGCTTTCAAACCGTTCCTTTGACATACTGATTAACCG
 CAA

The similarity index of the five strains sequence to *plnG* sequence in NCBI was 98.5%.

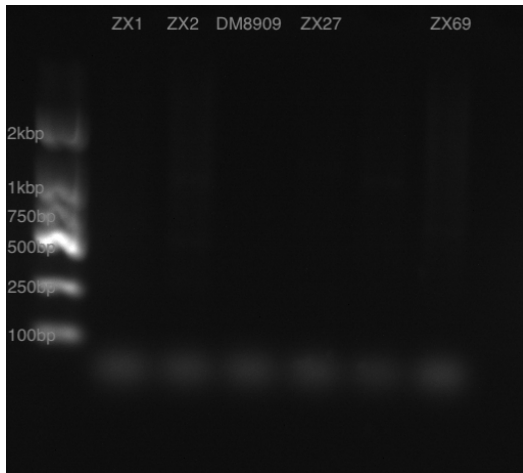


Supplementary Figure S10: The *plnN* gene detection results of 5 strains.

The sequencing results of the *plnN*(146bp) are the following:

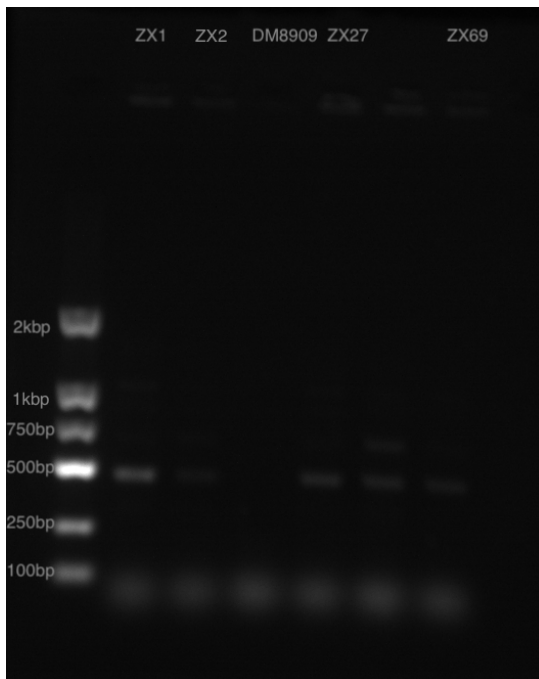
TACCTAAACCATGCCATGCACTCGAAGTTCCTCTGCTaCcTTTCccAGCaAT
 GTAAGGCTCTTGTACCACCATGTCTTAGAATAGTTTTCCACCtTCAACGGT
 AGTCAAATCTTTTTCTGCCATTTTCGATACCTAACCCGGCAATAGA

The similarity index of the five strains sequence to *plnN* sequence in NCBI was 95.4%.



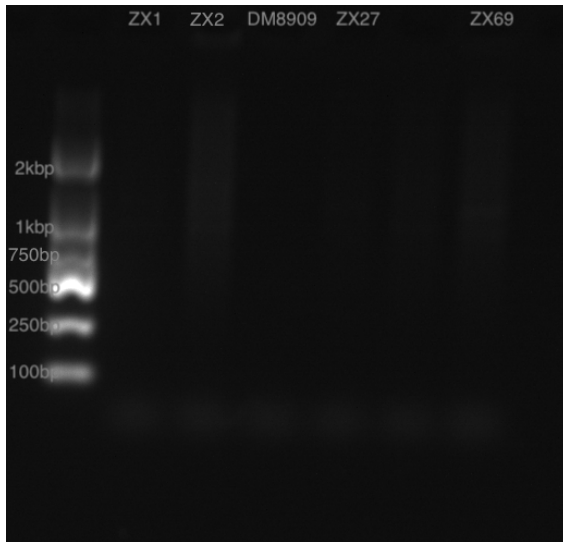
Supplementary FIGURE S11: The Plantaricin NC8 structural gene detection results of 5 strains.

The Plantaricin NC8 structural gene of 5 samples was negative.



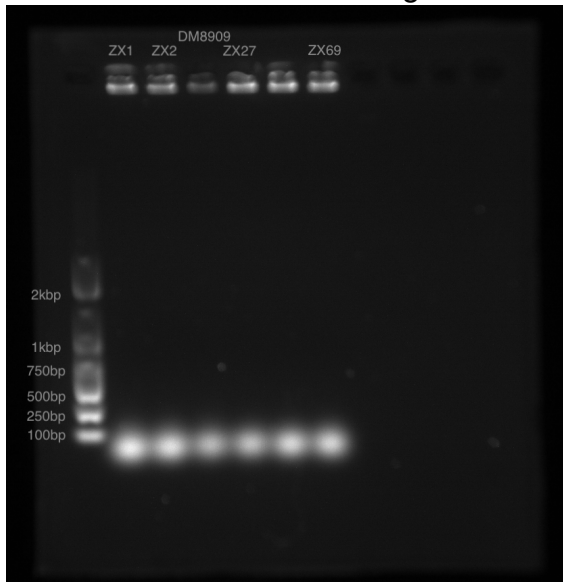
Supplementary FIGURE S12: Plantaricin S structural gene detection results of 5 strains.

The Plantaricin S structural gene of 5 samples was negative.



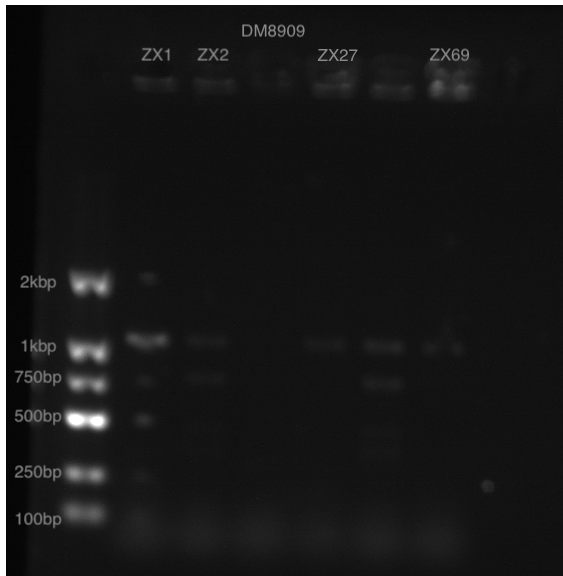
Supplementary FIGURE S13: The Plantaricin W structural gene detection results of 5 strains.

The Plantaricin W structural gene of 5 samples was negative.



Supplementary FIGURE S14: The *entA* gene detection results of 5 strains.

The *entA* gene of 5 samples was negative.



Supplementary **FIGURE S15**: The *gasA* gene detection results of 5 strains. The *gasA* gene of 5 samples was negative.



Supplementary **FIGURE S16**: The *laf* gene detection results of 5 strains. The *laf* gene of 5 samples was negative.