

Table S1 Primer sequences used for analyzing the genes associated with biofilm formation, bacterial adhesion, acid production and acid tolerance.

Gene name	Nucleotide sequence	Reference
<i>16s rRNA</i>	F: 5' -CCATGTGTAGCGGTGAAATGC- 3'	[45]
	R: 5' -TCATCGTTTACGGCGTGGAC- 3'	
<i>gtfB</i>	F: 5' -AGCCGAAAGTTGGTATCGTCC- 3'	[45]
	R: 5' -TGACGCTGTGTTTCTTGGCTC- 3'	
<i>gtfC</i>	F: 5' -TTCCGTCCCTTATTGATGACATG- 3'	[45]
	R: 5' -AATTGAAGCGGACTGGTTGCT- 3'	
<i>gtfD</i>	F: 5' -ACAGCAGACAGCAGCCAAGA- 3'	[45]
	R: 5' -ACTGGGTTTGCTGCGTTTG- 3'	
<i>comD</i>	F: 5' -TTCCTGCAAACTCGATCATATAGG- 3'	[45]
	R: 5' -TGCCAGTTCTGACTTGTTTAGGC- 3'	
<i>comC</i>	F: 5' -GACTAGTCATTGGCGGAAGCCTATCAAC-3	[46]
	R: 5' -GCTCTAGAGCTCAGAACATCAAAAATGACCGTTTAGGAC- 3'	
<i>comE</i>	F: 5' -TTCCTCTGATTGACCATTCTCTG- 3'	[45]

R: 5' -GAGTTTATGCCCCTCACTTTTCAG- 3'

luxS F: 5' -CCAGGGACATCTTTCCATGAGAT- 3' [45]

R: 5' -ACGGGATGATTGACTGTTCCC- 3'

Pac F: 5' -AGCTGGAGAGACAAATGGTTCAT- 3' [47]

R: 5' -GACACCAGCAGACTTAGCATCTT- 3'

gbpA F: 5' -AGGAAACGGCTAAAACCGAA- 3' [48]

R: 5' -TTTGATCCCCTGTCTCCACA- 3'

gbpB F: 5' -AGTGCTTCGACAGCTGCTGT- 3' [48]

R: 5' -AACCGCCATCATTCCATACA- 3'

gbpC F: 5' - TCCTCCAGTGACACCACCAA- 3' [48]

R: 5' -AAAGTAGCCGCAGCAAATGC- 3'

gbpD F: 5' -TTCCGCTTCTAGCCAGCAAT- 3' [48]

R: 5' -AATGCGTCGGCTATCGATGT- 3'

aguD F: 5' - ATCCCGTGAGTGATAGTATTTG -3' [49]

R: 5' -CAAGCCACCAACAAGTAAGG- 3'

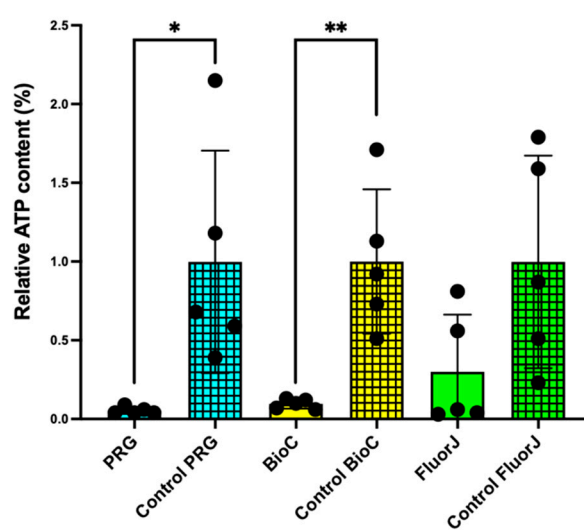


Figure S1 Relative adenosine triphosphate (ATP) bioluminescence assay content of residual bacterial cells on the sample surface following the biofilm detachment procedure.

The results are shown as means \pm the SD of 5 replicates. ** $p < 0.01$, * $p < 0.05$.