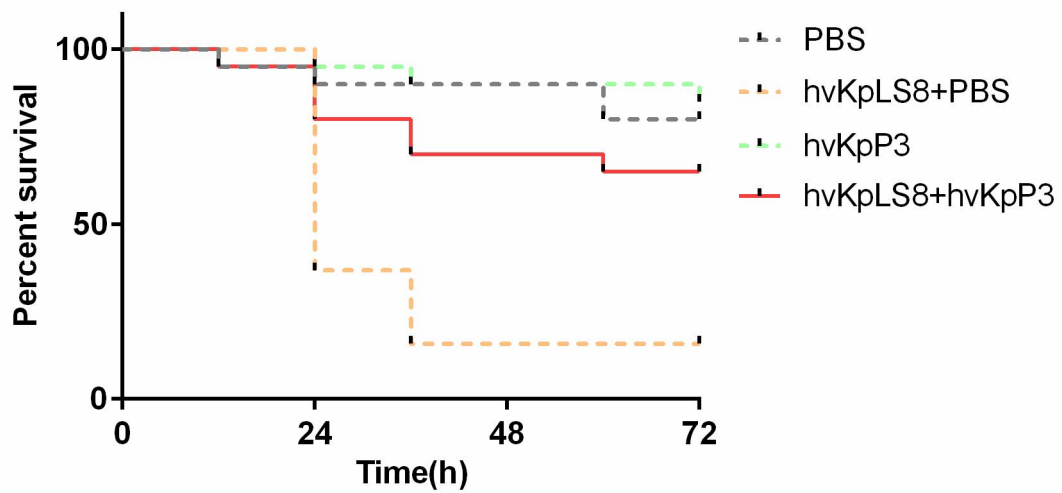


Supplementary Table 1: Primers used in this study

gene	Primers Name	Sequences (5'-3')
<i>16S rRNA</i>	F	AGAGTTTGATCCTGGCTCAG
	R	GGTACCTTGTTACGACTT
<i>GT</i>	PET28A- <i>GT</i> -F	AGGAGATATACCATGG AATATACGGCATTGATAGTGAC
	PET28A- <i>GT</i> -R	TGGTGGTGGTGCTCGAG TTAATGATACTTACCACTAATACC
<i>wcaJ</i>	<i>wcaJ</i> -F	ATGACAATATCTCAGCATCGC
	<i>wcaJ</i> -R	GCAGCATCTTATCAATAAGCAG



Supplementary Figure 1. Survival of *G. mellonella* larvae after infection by hvKpLS8 and phage therapy. Treatment with hvKpP3.

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          10      20      30      40      50      60
hvKpLS8  ATGAAATATA CGGCATTGAT AGTGACATTC AATCGGCTCG GTAAACTGAA AAAAACCGTT
hvKpP3R  ATGAAATATA CGGCATTGAT AGTGACATTC AATCGGCTCG GTAAACTGAA AAAAACCGTT

          70      80      90      100     110     120
hvKpLS8  GAAGAGACCC TCAAACCTGA ATTCACTAAT ATTGTTATTG TCAATAACGG GTCCACGGAT
hvKpP3R  GAAGAGACCC TCAAACCTGA ATTCACTAAT ATTGTTATTG TCAATAACGG GTCCACGGAT

          130     140     150     160     170     180
hvKpLS8  GGGACCCAAG CCTGGCTTTC GTCAATTGTT GATACGCGAG TCATTGTGTT AACCCTTACC
hvKpP3R  GGGACCCAAG CCTGGCTTTC GTCAATTGTT GATACGCGAG TCATTGTGTT AACCCTTACC

          190     200     210     220     230     240
hvKpLS8  GAGAATACCG GTGGGGCGGG GGGCTTTAAA ACAGGAAGTC AGTATATTTG TGCACAGCTA
hvKpP3R  GAGAATACCG GTGGGGCGGG GGGCTTTAAA ACAGGAAGTC AGTATATTTG TGCACAGCTA

          250     260     270     280     290     300
hvKpLS8  GCAAGTGATT GGGTTTTTTT CTACGATGAC GATGCTTACC CCTATCCAGA CACGTTGAAG
hvKpP3R  GCAAGTGATT GGGTTTTTTT CTACGATGAC GATGCTTACC CCTATCCAGA CACGTTGAAG

          310     320     330     340     350     360
hvKpLS8  TCCTTTTCAC AGCTGGATAA GCGGGGATGT CGGGTATTTA GTGGACTGGT GAAAGATCCG
hvKpP3R  TCCTTTTCAC AGCTGGATAA GCGGGGATGT CGGGTATTTA GTGGACTGGT GAAAGATCCG

          370     380     390     400     410     420
hvKpLS8  CAAGGAAAAC CGTGTCCGAT GAATATGCCG TTCTCGCGTG TACCAACCTC CCTTGGCGAC
hvKpP3R  CAAGGAAAAC CGTGTCCGAT GAATATGCCG TTCTCGCGTG TACCAACCTC CCTTGGCGAC

          430     440     450     460     470     480
hvKpLS8  ACTGTACGCT ATTACGCTA CCCTGCAGAG TTTATCCCGG CAGCTAATCG TTCTATGTTT
hvKpP3R  ACTGTACGCT ATTACGCTA CCCTGCAGAG TTTATCCCGG CAGCTAATCG TTCTATGTTT

          490     500     510     520     530     540
hvKpLS8  GTACAAACGG TTTCATTTGT TGGGATGGTC ATACATCGTG ATCTGCTCGC GACCAGTCTT
hvKpP3R  GTACAAACGG TTTCATTTGT TGGGATGGTC ATACATCGTG ATCTGCTCGC GACCAGTCTT

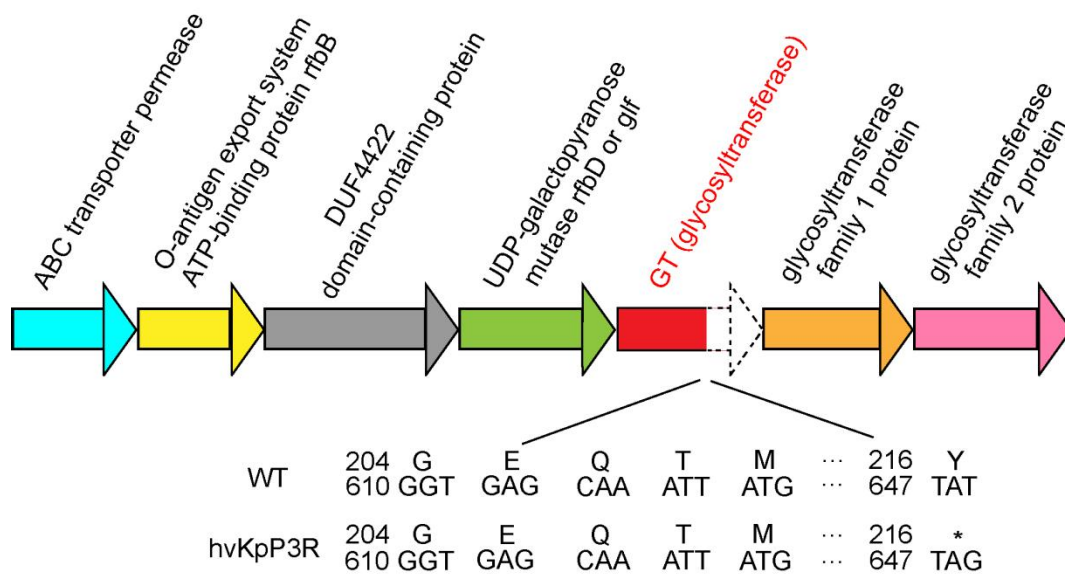
          550     560     570     580     590     600
hvKpLS8  GACTACATTC GCGAACAGCT CTTTATCTAC TTIGATGATC TTTACTTTGG CTATCAGCTA
hvKpP3R  GACTACATTC GCGAACAGCT CTTTATCTAC TTIGATGATC TTTACTTTGG CTATCAGCTA

          610     620     630     640     650     660
hvKpLS8  TCATTAGCTG GTGAGCAAAT TATGTATAGC CCGGAGTTGC TATTTTATCA TGATGTGAGT
hvKpP3R  TCATTAGCTG GTGAGCAAAT TATGTATAGC CCGGAGTTGC TATTTTAGCA TGATGTGAGT

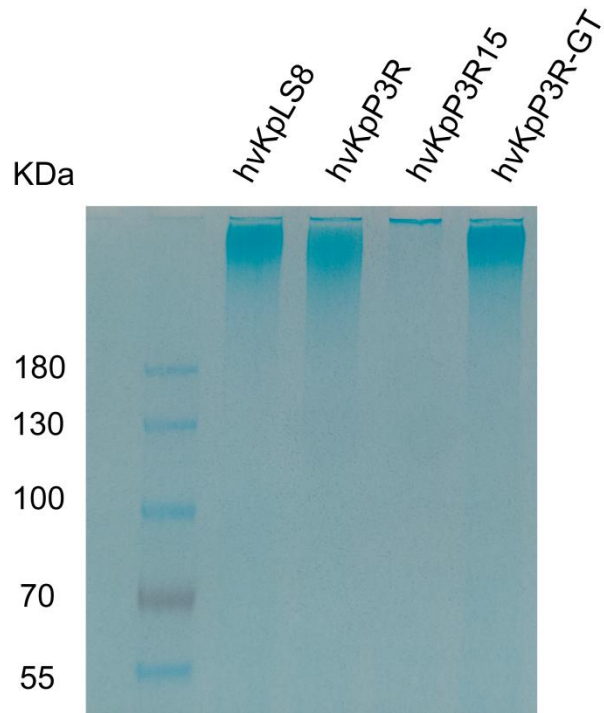
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premature stop mutation

Supplementary Figure 2: Information about the mutation site of phage-resistant mutant hvKpP3R.



Supplementary Figure 3: Annotation of protein.



Supplementary Figure 4: CPS samples were extracted from *K. pneumoniae* strains. After separated by 6% SDS-PAGE, CPS phenotypes of hvKpLS8, hvKpP3R, hvKpP3R15 and hvKpP3R-GT were visualized by Alcian blue staining.