

CLAIMS

1. An antimicrobial peptide, consisting of RRRGRSPRRRTSPRRRRSQSPRRRRSC (SEQ ID NO: 7) or RRRGRPRRRPPRRRRQPRRRRC (SEQ ID NO: 9); optionally, at least one of the arginine residues in the peptide is D-arginine.
2. The antimicrobial peptide of claim 1, wherein at least one of the arginine residues is D-arginine.
3. The antimicrobial peptide of claim 2, wherein the peptide consists of rRrGRPrRrPPrRrRQPrRrRC (SEQ ID NO: 9), in which R is L-arginine and r is D-arginine.
4. The antimicrobial peptide of claim 2, wherein the peptide consists of rRrGRSPrRrTPSPrRrRSQSPrRrRSC (SEQ ID NO: 7), in which R is L-arginine and r is D-arginine.
5. The antimicrobial peptide of claim 2, wherein the peptide consists of RrRGRSPRrRTPSPRrRrSQSPRrRrSC (SEQ ID NO: 7), in which R is L-arginine and r is D-arginine.
6. The antimicrobial peptide of claim 1, wherein the peptide consists of RRRGRPRRRPPRRRRQPRRRRC (SEQ ID NO: 9), in which each of the arginine residues in the peptide is L-arginine.
7. The antimicrobial peptide of claim 1, wherein the peptide consists of RRRGRSPRRRTSPRRRRSQSPRRRRSC (SEQ ID NO: 7), in which each of the arginine residues in the peptide is L-arginine.
8. A pharmaceutical composition comprising the antimicrobial peptide of claim 1 and a pharmaceutically acceptable carrier.

9. A method of treating a bacterial infection, the method comprising administering the composition of claim 8 to a subject in need thereof.
10. A chimeric antimicrobial peptide, consisting of RRRGRSPRRRTSPRRRRSOSPRRRRSC (SEQ ID NO: 7) or RRRGRPRRRPPRRRRROPRRRRRC (SEQ ID NO: 9), and an affinity tag, a signal sequence, a ligand, or another antimicrobial peptide or fragment thereof; optionally, at least one of the arginine residues in the peptide is D-arginine.
11. The chimeric antimicrobial peptide of claim 10, wherein the antimicrobial peptide consists of RRRGRPRRRPPRRRRQPRRRRC (SEQ ID NO: 9), in which each of the arginine residues in the peptide is L-arginine or at least one of the arginine residues is D-arginine.
12. The chimeric antimicrobial peptide of claim 11, wherein the antimicrobial peptide consists of rRrGRPrRrPPrRrRQPrRrRC (SEQ ID NO: 9), in which R is L-arginine and r is D-arginine.
13. The chimeric antimicrobial peptide of claim 10, wherein the antimicrobial peptide consists of RRRGRSPRRRTSPRRRRSQSPRRRRSC (SEQ ID NO: 7), in which each of the arginine residues in the peptide is L-arginine or at least one of the arginine residues is D-arginine.
14. The chimeric antimicrobial peptide of claim 13, wherein the antimicrobial peptide consists of rRrGRSPrRrTPSPrRrRSQSPrRrRSC (SEQ ID NO: 7), in which R is L-arginine and r is D-arginine.
15. The chimeric antimicrobial peptide of claim 13, wherein the antimicrobial peptide consists of RrRGRSPRrRTSPRrRrSQSPRrRrSC (SEQ ID NO: 7), in which R is L-arginine and r is D-arginine.

16. An antimicrobial peptide conjugate, the conjugate consisting of RRRGRSPRRRTSPRRRRSOSPRRRRSC (SEQ ID NO: 7) or RRRGRPRRRPPRRRRROPRRRRC (SEQ ID NO: 9), and a non-peptide moiety; optionally at least one of the arginine residues in the peptide is D-arginine.

17. The antimicrobial peptide conjugate of claim 16, wherein the antimicrobial peptide consists of RRRGRPRRRPPRRRRQPRRRRC (SEQ ID NO: 9), in which each of the arginine residues in the peptide is L-arginine or at least one of the arginine residues is D-arginine.

18. The antimicrobial peptide conjugate of claim 17, wherein the antimicrobial peptide consists of rRrGRPrRrPPrRrQPrRrRC (SEQ ID NO: 9), in which R is L-arginine and r is D-arginine.

19. The antimicrobial peptide conjugate of claim 16, wherein the antimicrobial peptide consists of RRRGRSPRRRTSPRRRRSQSPRRRRSC (SEQ ID NO: 7), in which each of the arginine residues in the peptide is L-arginine or at least one of the arginine residues is D-arginine.

20. The antimicrobial peptide conjugate of claim 19, wherein the antimicrobial peptide consists of rRrGRSPrRrTPSPrRrRSQSPrRrRSC (SEQ ID NO: 7), in which R is L-arginine and r is D-arginine.

21. The antimicrobial peptide conjugate of claim 19, wherein the antimicrobial peptide consists of RrRGRSPRrRTPSPRrRrSQSPRrRrSC (SEQ ID NO: 7), in which R is L-arginine and r is D-arginine.