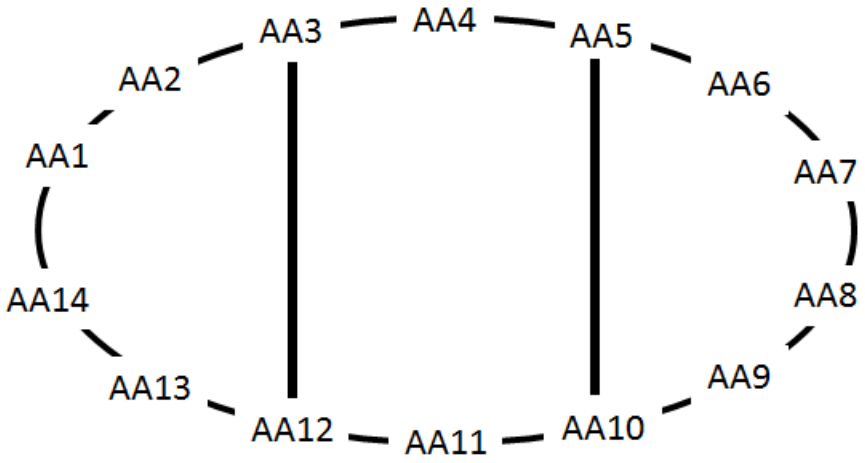
CLAIMS

What is claimed is:

1. A cyclic peptide consisting of 14 amino acids and having the following structure:



wherein AA3 and AA12 are cysteines joined by a disulfide bond, AA5 and AA10 are cysteines joined by a disulfide bond, AA4 is arginine, AA11 is arginine, two of AA6, AA7, and AA8 are arginine, wherein a β turn segment of the cyclic peptide defined by AA6, AA7, AA8, and AA9 does not include more than two adjacent arginines, and wherein the cyclic peptide comprises five or more arginine residues that provide a positively charged content of at least about 36% at physiological pH.

2. The cyclic peptide of claim 1, wherein AA1 is glycine.

3. The cyclic peptide of claim 1 or 2, wherein AA2 is a first hydrophobic amino acid.

4. The cyclic peptide of claim 3, wherein the first hydrophobic amino acid is valine.

5. The cyclic peptide of one of claims 1 to 4, wherein AA9 is a second hydrophobic amino acid.

6. The cyclic peptide of claim 5, wherein the second hydrophobic amino acid is valine.

7. The cyclic peptide of one of claims 1 to 6, wherein AA13 is arginine.

8. The cyclic peptide of one of claims 1 to 7, wherein AA14 is arginine.

9. The cyclic peptide of one of claims 1 to 8, wherein the cyclic peptide is an analog of a θ-defensin, and wherein the cyclic peptide provides improved survival when applied systemically in a murine disseminated candidiasis model relative to the θ-defensin.

10. The cyclic peptide of one of claims 1 to 9, wherein the cyclic peptide provides a biphasic response on application to a murine model of disseminated candidiasis, wherein the biphasic response comprises a first phase of mobilization of host effector cells having antifungal activity and a second phase of moderation of host inflammatory response.

11. The cyclic peptide of one of claims 1 to 10, wherein the cyclic peptide has a TACE inhibiting activity.

12. The cyclic peptide of one of claims 1 to 11, wherein the cyclic peptide suppresses at least one of expression, processing, and release of a proinflammatory cytokine.

13. The cyclic peptide of one of the claims 1 to 12, wherein the cyclic peptide activates a host immune system to enhance host clearance of pathogens.

14. The cyclic peptide of one of the claims 1 to 13, wherein the cyclic peptide is characterized by an activity that modulates inflammation to enhance disease resolution and survival at doses effective to treat disseminated fungal infection.

15. The cyclic peptide of any one of claims 1 to 14 for use in the treatment or prevention of disseminated fungal disease and associated sepsis or septic shock.

16. Use of the cyclic peptide of any one of claims 1 to 14 in the preparation of a medicament for the treatment or prevention of disseminated fungal disease and associated sepsis or septic shock.