WE CLAIM:

1. A composition for use in killing antibiotic-resistant bacterium, the composition comprising:

a phenolic component having a molecular weight ranging from about 110 Daltons to about 40,000 Daltons; and,

a compound capable of releasing a peroxide anion;

wherein,

the weight ratio of the phenolic component to the compound capable of releasing a peroxide anion ranges from about 1:1000 to about 10:1.

2. The composition of claim 1, wherein the compound capable of releasing a peroxide anion is hydrogen peroxide.

3. The composition of claim 1 or 2, wherein the phenolic component has a molecular weight ranging from 500 Daltons to 4000 Daltons.

4. The composition of any one of claims 1 to 3, wherein the weight ratio of phenolic component to hydrogen peroxide ranges from 1:1 to 1:50.

5. The composition of any one of claims 1 to 4, wherein the phenolic component is obtained from an extract selected from the group consisting of green tea, pomegranate, Chinese gall, resveratrol and a combination thereof.

6. The composition of any one of claims 1 to 5, wherein the phenolic component is a tannin.

7. The composition of claim 6, wherein the phenolic component is a hydrolysable tannin, a condensed tannin, or a combination thereof.

8. The composition of claim 7, wherein the hydrolysable tannin is selected from the group consisting of gallic acid, ellagic acid, ellagitannin, punicalins, punicalagin, and a combination thereof.

9. The composition of any one of claims 1 to 8, wherein the phenolic component is a flavonoid.

10. The composition of claim 9, wherein the flavonoid is selected from the group consisting of flavanol, catechin, epicatechin, theaflavins, thearubigins, anthocyanin, gallocatechin (EC), epigallocatechin (EGC), epicatechin gallate (ECG), epigallocatechin gallate (EGCG) and a combination thereof.

11. The composition of any one of claims 1 to 10, wherein the antibiotic-resistant bacterium is selected from the group consisting of Escherichia coli, Salmonella enterica serotype typhimurium, Staphylococcus aureus, methicillin resistant staphylococcus aureus (MRSA), Pseudomonas aeruginosa, Listeria monocytogenes, Pasteurella multocida, Proteus vulgaris, Klebsiella pneumoniae, Bacillus cereus and Bordetella bronchiseptica.

12. The composition of any one of claims 1 to 11 comprising a pharmaceutically acceptable excipient.

13. A composition for use in treating or preventing infection with an antibiotic resistant bacterium, or inflammation or tissue damage caused by an antibiotic resistant bacterium, the composition comprising administering the subject in need thereof with:

a phenolic component having a molecular weight ranging from about 110 Daltons to about 40,000 Daltons; and

a compound capable of releasing a peroxide anion.

14. A composition for use in treating or preventing infection with an antibiotic resistant bacterium, or inflammation or tissue damage caused by an antibiotic resistant bacterium, the composition according to any one of claims 1 to 12.

15. The composition for use in claim 13 or claim 14, wherein at the site of the inflammation and/or tissue damage, the compound capable of releasing a peroxide anion releases a peroxide anion.

16. The composition for use in any one of claims 13 to 15, wherein the antibiotic-resistant bacterium causative is selected from the group consisting of Escherichia coli, Salmonella enterica serotype typhimurium, Staphylococcus aureus, methicillin resistant staphylococcus aureus (MRSA), Pseudomonas aeruginosa, Listeria monocytogenes, Pasteurella multocida, Proteus vulgaris, Klebsiella pneumoniae, Bacillus cereus and Bordetella bronchiseptica.

17. Use of a phenolic component having a molecular weight ranging from about 110 Daltons to about 40,000 Daltons and a compound capable of releasing a peroxide anion for the manufacture of a medicament for treating or preventing infection with an antibiotic resistant bacterium, or inflammation or tissue damage caused by an antibiotic resistant bacterium.

18. The use of claim 17, wherein the weight ratio of the phenolic component to the compound capable of releasing a peroxide anion ranges from about 1:1000 to about 10:1.

19. The use of claim 18 wherein the compound capable of releasing a peroxide anion is hydrogen peroxide.

20. The use of claim 18 or claim 19, wherein the phenolic component has a molecular weight ranging from 500 Daltons to 4000 Daltons.

21. The use of any one of claims 18 to 20, wherein the weight ratio of phenolic component to hydrogen peroxide ranges from 1:1 to 1:50.

22. The use of any one of claims 18 to 21, wherein the phenolic component is obtained from an extract selected from the group consisting of green tea, pomegranate, Chinese gall, resveratrol and a combination thereof.

23. The use of any one of claims 18 to 22, wherein the phenolic component is a tannin.

24. The use of claim 23, wherein the phenolic component is a hydrolysable tannin, a condensed tannin, or a combination thereof.

25. The use of claim 24, wherein the hydrolysable tannin is selected from the group consisting of gallic acid, ellagic acid, ellagitannin, punicalins, punicalagin, and a combination thereof.

26. The use of any one of claims 18 to 25, wherein the phenolic component is a flavonoid.

27. The use of claim 26, wherein the flavonoid is selected from the group consisting of flavanol, catechin, epicatechin, theaflavins, thearubigins, anthocyanin, gallocatechin (EC), epigallocatechin (EGC), epicatechin gallate (ECG), epigallocatechin gallate (EGCG) and a combination thereof.

28. The use of any one of claims 18 to 27, wherein the antibiotic-resistant bacterium causative is selected from the group consisting of Escherichia coli, Salmonella enterica serotype typhimurium, Staphylococcus aureus, methicillin resistant staphylococcus aureus (MRSA), Pseudomonas aeruginosa, Listeria monocytogenes, Pasteurella multocida, Proteus vulgaris, Klebsiella pneumoniae, Bacillus cereus and Bordetella bronchiseptica.

29. A kit comprising the composition of claim 1, wherein the kit comprises a dry form of the phenolic component; and, a dry material for releasing hydrogen peroxide, the dry material is selected from the group consisting of sodium percarbonate, potassium percarbonate, an amino perhydrate, a carbamide peroxide, a magnesium peroxide, and urea peroxide.

30. A dietary supplement comprising the composition of claim 1 for use in killing Salmonella enterica serotype typhimurium.