1. A ~~botanical~~ polyphenol-oxidizer composition for gastrointestinal use as an antimicrobial, comprising:

   a combination of (i) a water soluble extract of a plant tissue comprising a polyphenol including a tannin, (ii) an ~~effective amount of an~~ exogeneous ~~reactive oxygen species including~~ hydrogen peroxide, and (iii) inactivated ~~endogeneous~~ enzymes from the plant tissue which otherwise cause degradation of the composition if the enzymes remain active;

   wherein, the extract has a sequestering effect on the ~~reactive oxygen species~~ hydrogen peroxide in the combination; and,

   the composition kills bacteria upon contact with the bacteria.

2. The composition of claim 1, wherein the polyphenol and the ~~reactive oxygen species~~ hydrogen peroxide combine ~~with an oxidative enzyme at a target site having polypeptides to crosslink the polypeptides with the polyphenol upon activation of the polyphenol when combined~~ to stabilize and concentrate reactive oxygen species in proximity to phenolic units in the composition.

3. The composition of claim 1, wherein the plant tissue comprises a component selected from the group consisting of rye seeds, mung beans, daikon skin, pomegranate, bearberries, aloe vera skin, organ pipe cactus, Chinese gall, oregano, persimmon fruit, wheat germ, barley seeds, coffee beans, green tea, black tea, punica granatus, tobacco, a succulent, and external plant tissues, roots, leafs, leaf cuticles, bark, fruit, rinds, and husks thereof.

4. The composition of claim 1, wherein the plant tissue comprises a combination of camellia sinensis ~~or~~ and punica granatum.

5. The composition of claim 1, wherein the extract comprises a ~~component~~ polyphenol selected from the group consisting of ~~a tannin,~~ a lignin, a flavonoid, a hydroxycoumarin, and an alkaloid.

6. The composition of any of claims 1-4, wherein the composition is a dilute aqueous formulation having the extract at a concentration ranging from 3.9ug/ml to about 500ug/ml.

7. The composition of any of claims 1-5 for use in treating~~, preventing, or ameliorating the symptoms of~~ an infection of, or damage to, the digestive system.

8. The composition of any of claims 1-5 for use in treating~~, preventing, or ameliorating the symptoms of~~ diarrhea.

9. The composition of any of claims 1-5 for use in treating water for ingestion in the gastrointestinal tract.

10. The composition of any of claims 1-5 for use in treating an infected gastrointestinal tissue.

~~11. The composition of any of claims 1-5 for use in wound healing of target tissues.~~

~~12. The composition of any of claims 1-5 for use in protecting wounded tissue.~~

~~13.~~11. The composition of any of claims 1-5 for use in stimulating growth in an animal ~~systems~~by administering to the gastrointestinal tract of the animal.

~~14. The composition of any of claims 1-5 for use in treating an infection of a respiratory tract.~~

~~15. The composition of any of claims 1-5 for use in treating an infection of a urinary tract.~~

~~16. The composition of any of claims 1-5 for use in treating an infection of a reproductive tract.~~

~~17.~~12. The composition of any of claims 1-5 for use in producing a medicament ~~that~~ for administration to a subject for use in treating a gastrointestinal disorder in a dose ranging in amount from 20 ug to 250 ug.

~~18.~~13. A kit comprising a dry, stable form of the compositions of any of claims 1-5, including instructions for hydrating the composition to produce a polyphenol-oxidizer solution.

~~19.~~14. The kit of claim ~~18~~13, wherein the dry form of the reactive oxygen species includes a hydrogen peroxide generating material comprising a component selected from the group consisting of sodium percarbonate, potassium percarbonate, a carbamide peroxide, and urea peroxide.

~~20.~~15. The kit of claim ~~18~~13, wherein the reactive oxygen species component includes a dry potassium percarbonate or sodium percarbonate.

~~21.~~16. A method of producing the ~~site-activated~~ polyphenol-oxidizer composition of any of claims 1-5, wherein the method comprises:

choosing the plant tissue;

denaturing an ~~endogeneous~~ enzyme from the plant tissue, the denaturing including inactivating or removing active reducing agents or catalysts from the plant tissue;

pulverizing the plant tissue;

extracting the polyphenols from the plant tissue with a solvent to create an extract; and,

adding a reactive oxygen species to the extract in an effective amount.

~~22.~~17. The method of claim ~~21~~16, wherein the plant tissue comprises a component selected from the group consisting of rye seeds, mung beans, daikon skin, pomegranate, bearberries, aloe vera skin, organ pipe cactus, Chinese gall, oregano, persimmon fruit, wheat germ, barley seeds, coffee beans, green tea, black tea, punica granatus, tobacco, a succulent, and external plant tissues, roots, leafs, leaf cuticles, bark, fruit, rinds, and husks thereof.

~~23.~~18. The method of claim ~~21~~16, wherein the plant tissue comprises a combination of camellia sinensis ~~or~~ and punica granatum.

~~24.~~19. The method of claim ~~21~~16, wherein the extract comprises a component selected from the group consisting of a tannin, a lignin, a flavonoid, a hydroxycoumarin, and an alkaloid.

~~25.~~20. A polyphenol-oxidizer ~~botanical~~ composition for gastrointestinal use as an antimicrobial, comprising:

a combination of (i) an extract of a plant tissue comprising a polyphenol selected from the group consisting of a tannin, a lignin, a flavonoid, a hydroxycoumarin, and an alkaloid; (ii) an ~~effective amount of an~~ exogeneous hydrogen peroxide; and (iii) inactivated ~~endogeneous~~ enzymes from the plant tissue which otherwise cause degradation of the composition if the enzymes remain active;

wherein, the extract has a sequestering effect on the reactive oxygen species in the combination and,

the composition kills bacteria upon contact with the bacteria.

~~26~~ 21. The composition of any of claims 1-5 for use as an anti-inflammatory.

22. The composition of any of claims 1-5, wherein the plant tissue comprises punica granatum.

23. The composition of any of claims 1-5, wherein the plant tissue comprises Chinese gall.