CLAIMS

What is claimed is:

1. Modified coconut oil derived form catalyzing coconut oil with 1,3 – specific lipase, said modified coconut oil contains effective amounts of medium-chain fatty-acids and their corresponding monoglycerides, wherein said modified oil has antimicrobial properties.

2. Modified coconut oil according to Claim 1 wherein said of medium-chain fatty-acids comprises caprylic acid (C_8), capric acid (C_{10}) and lauric acid (C_{12}).

3. Modified coconut oil according to Claim 1 wherein said corresponding monoglycerides comprises monocaprylin, monocaprin and monolaurin.

4. Modified coconut oil according to Claim 1 wherein said modified coconut oil contains more than 10% concentration of free fatty-acids and more than 1% concentration of monoglycerides.

5. Modified coconut oil according to Claim 1or 4 wherein said 1,3-specific lipase is obtained from *Rhizomucor miehei*.

6. Modified coconut oil according to Claim 1 or 4 wherein said modified coconut oil is derived from catalytic activity of 1,3-specific lipase on coconut oil by partial hydrolysis.

7. Modified coconut oil according to Claim 6 wherein said modified oil is subjected to glycerolysis reaction after said partial hydrolysis reaction.

8. Modified coconut oil according to any one of Claim 1 or 6 wherein said coconut oil is virgin coconut oil.

9. Modified coconut oil according to Claim 1 or 4 wherein said modified coconut oil contains more than 10% concentration of free fatty-acids and less than 2% concentration of monoglycerides.

10. Modified coconut oil according to Claim 9 wherein said free fatty-acids comprises more than 10 mg/g caprylic acid (C_8), more than 7 mg/g capric acid (C_{10}) and more than 54 mg/g lauric acid (C_{12}).

11. Modified coconut oil according to Claim 9 wherein said monoglycerides comprises more than 0.6 mg/g monocaprylin, more than 0.4 mg/g monocaprin and more than 20 mg/g monolaurin.

12. Modified coconut oil according to any one of Claim 1,4, 9, 10 or 11 wherein said modified coconut oil is effective against gram-positive bacteria such as *S. aureus, L .monocytogenenes* and *S. pyogenes.*

13. Modified coconut oil according to any one of Claim 1,4, 9, 10 or 11 wherein said modified coconut oil is effective against gram-negative bacteria such as *V. cholerae.*

14. Modified coconut oil according to any one of Claim 1,4, 9, 10 or 11 wherein said modified coconut oil is effective against yeast such as *C. albicans.*

15. Modified coconut oil according to any one of Claim 9, 10 or 11 wherein said modified coconut oil is derived from catalytic activity of 1,3-specific lipase on coconut oil by partial hydrolysis reaction.

16. Modified coconut oil according to Claim 15 wherein said 1,3-specific lipase is obtained from *Rhizomucor miehei.*

17. Modified coconut oil according to any one of Claim 15 wherein said coconut oil is virgin coconut oil.

18. Modified coconut oil according to Claim 1 or 4 wherein said modified coconut oil contains more than 10% concentration of free fatty-acids and more than 8% concentration of monoglycerides.

19. Modified coconut oil according to Claim 18 wherein said free fatty-acids comprises more than 9 mg/g caprylic acid (C_8), more than 6 mg/g capric acid (C_{10}) and more than 68 mg/g lauric acid (C_{12}).

20. Modified coconut oil according to Claim 18 wherein said monoglycerides comprises more than 8 mg/g monocaprylin, more than 5 mg/g monocaprin and more than 41 mg/g monolaurin.

21. Modified coconut oil according to any one of Claim 1, 4, 18,19 or 20 wherein said modified coconut oil is more effective against gram-positive bacteria such as *S. aureus, L . monocytogenenes* and *S. pyogenes*.

22. Modified coconut oil according to any one of Claim 1, 4, 18,19 or 20 wherein said modified coconut oil is more effective against yeast such as *C. albicans*.

23. Modified coconut oil according to Claim 22 wherein said modified coconut oil inhibits 100% *C. albicans* within 8 hr incubation.

24. Modified coconut oil according to any one of Claim 1, 4, 18,19 or 20 wherein said modified coconut oil is effective in reducing growth of gram negative bacteria such as *E. coli*.

25. Modified coconut oil according to any one of Claim 1, 4, 18,19 or 20 wherein said modified coconut oil is derived from catalytic activity of

1,3-specific lipase on coconut oil by partial hydrolysis followed by glycerolysis reaction.

26. Modified coconut oil according to Claim 25 wherein said 1,3-specific lipase is obtained from *Rhizomucor miehei.*

27. Modified coconut oil according to any one of Claim 25 wherein said coconut oil is virgin coconut oil.

28. The use of modified coconut oil according to any one of the preceding claims for treatment and prevention of skin diseases.

29. The use of modified coconut oil according to any one of the preceding claims for food preservation.

30. The use of modified coconut oil according any one of the preceding claims for formulation in personal hygiene products or incorporated as part of the formulation of said personal hygiene products.

31. The use of modified coconut oil according any one of the preceding claims as an antibacterial agent wherein the dosage form is a capsule.

32. The use of modified coconut oil according any one of the preceding claims as a natural antibiotic agent for preventing disease in animal.

33. Modified palm kernel oil derived form catalyzing palm kernel oil with 1,3 –specific lipase, said modified oil contains effective amounts of medium-chain fatty-acids and their corresponding monoglycerides, wherein said modified oil has antimicrobial properties.

CLAIMS

1. Treated virgin coconut oil comprises 24.63 mg/g caprylic acid (C_8), 17.8 mg/g capric acid (C_{10}), 133.70 mg/g lauric acid (C_{12}) and 11.8 mg/g monocaprylin, 8.29 mg/g monocaprin and 57.16 mg/g monolaurin wherein said treated virgin coconut oil completely inhibits the growth of gram-positive bacteria such as *S. aureus*, *L. monocytogenes* and *S. pyogenes* within 2 hours incubation time.

2. Treated virgin coconut oil according to Claim 1 wherein said treated virgin coconut oil reduces about 40% of the growth of gram-negative bacteria such as *E. coli* within 24 hours incubation time.

3. Treated virgin coconut oil according to Claim 1 wherein said treated virgin coconut oil completely inhibits the growth of yeast such as *C. albicans* within 24 hours incubation time.

4. Treated virgin coconut oil comprises 23.10 mg/g caprylic acid (C_8), 16.8 mg/g capric acid (C_{10}), 116.81 mg/g lauric acid (C_{12}) and 16.04 mg/g monocaprylin, 10.35 mg/g monocaprin and 75.54 mg/g monolaurin wherein said treated virgin coconut oil completely inhibits the growth of gram-positive bacteria such as S. *aureus*, *L. monocytogenes* and *S. pyogenes* within 2 hours incubation time.

5. Treated virgin coconut oil according to Claim 4 wherein said treated virgin coconut oil reduces about 40% of the growth of gram-negative bacteria such as *E. coli* within 24 hours incubation time.

6. Treated virgin coconut oil according to Claim 4 wherein said treated virgin coconut oil completely inhibits the growth of yeast such as *C. albicans* within 24 hours incubation time.

7. A pharmaceutical composition for treatment or prevention of skin diseases, comprising the treated virgin coconut oil according to Claim 1 or Claim 4.

8. A food preservative composition comprising the treated virgin coconut oil according to Claim 1 or Claim 4.

9. A personal hygiene product formulated with or incorporating as part of the formulation of said personal hygiene product the treated virgin coconut oil according to Claim 1 or Claim 4.

10. An antibacterial agent composition comprising the treated virgin coconut oil according to Claim 1 or Claim 4 wherein the dosage form is a capsule.

11. A pharmaceutical composition for preventing disease in animal caused by bacteria and yeast, comprising the treated virgin coconut oil according to Claim 1 or Claim 4 as a natural antibiotic agent.