Claims:

1. A transdermal delivery device comprising:

a) a housing including

i) an external body shell comprising a fluid chamber assembly access cover movably engaged with the external body shell;

ii) an interior compartment including an open-ended delivery outlet and a vapor producing assembly compartment; and

iii) a cartridge retaining container comprising an external covering shell and an internal cartridge compartment configured to hold a compressed gas cartridge, wherein the cartridge retaining container is detachably engaged with the external body shell;

wherein the vapor producing assembly compartment is located in between the open-ended delivery outlet and the cartridge retaining container; and

b) a vapor producing assembly including

i) a fluid chamber assembly comprising a fluid container and a removable fluid container cap; and

ii) a permeation valve configured to reduce the pressure of a gas removed from the compressed gas cartridge and delivered to the fluid chamber assembly;

wherein the vapor producing assembly is substantially contained within the vapor producing assembly compartment.

2. The transdermal delivery device of Claim 1, wherein the external covering shell defines the internal cartridge compartment.

3. The transdermal delivery device of Claim 1, wherein the device further includes a control switch assembly.

4. The transdermal delivery device of Claim 3, wherein the control switch assembly is a mechanical switch or an electronic switch.

5. The transdermal delivery device of Claim 1, wherein the compressed gas cartridge is a 16 g compressed gas cartridge.

6. The transdermal delivery device of Claim 1, wherein the compressed gas cartridge includes a compressed gas.

7. The transdermal delivery device of Claim 6, wherein the compressed gas is carbon dioxide.

8. The transdermal delivery device of Claim 1, wherein the permeation valve is configured to reduce gas pressure to below 40 psi.

9. The transdermal delivery device of Claim1, wherein the permeation valve comprises at least one permeable member selected from rubber, cork, textile, porous polymer, densely sintered metal or combinations thereof.

10. The transdermal delivery device of Claim 1, wherein fluid container includes water.

11. A transdermal delivery device comprising

a cylinder containing pressurized carbon dioxide;

a permeation valve configured to reduce the pressure of the pressurized carbon dioxide;

a chamber configured to supersaturate a liquid in the chamber with carbon dioxide thereby forming a therapeutic vapor; and

a treatment chamber configured to deliver the therapeutic vapor to an individual.

12. A method of producing a substance comprising a supersaturated amount of dissolved gas using a transdermal delivery device according to Claim 1, the method comprising the steps of:

a) placing the substance in an air-tight container; and

b) exposing the substance to carbon dioxide, wherein upon exposure, the carbon dioxide dissolves into the substance in an amount greater than the substance could dissolve at 25 °C and 1 atm.

13. The method of Claim 12, wherein the substance is a liquid or a colloid.

14. The method of Claim 13, wherein the colloid is a foam, a liquid, an aerosol, an emulsion, a gel, or a sol.

15. The method of Claim 13, wherein the liquid is water at pH 4.

16. The method of Claim 12, wherein dissolved carbon dioxide is produced at a concentration of at least 30,000 ppm.

1. A transdermal delivery device comprising:

   a) a housing including

      i) an external body shell comprising a fluid chamber assembly access covering movably engaged with the external body shell;

      ii) an interior compartment including an open-ended delivery outlet and a vapor producing assembly compartment; and

      iii) a cartridge retaining container comprising an external covering shell and an internal cartridge compartment capable of holding a compressed gas cartridge, wherein the cartridge retaining container is detachably engaged with the external body shell;

      wherein the external shell defines the interior compartment; and

      wherein the vapor producing assembly compartment is located in between the open-ended delivery outlet and the cartridge retaining container; and

   b) a vapor producing assembly including

      i) a fluid chamber assembly comprises a fluid container and a removable fluid container cap; and

      ii) a permeation valve configured to reduce the pressure of a gas removed from the compressed gas cartridge and delivered to the fluid chamber assembly;

      wherein the vapor producing assembly is substantially contained within the vapor producing assembly compartment.

2. The transdermal delivery device of Claim 1, wherein the device further includes a control switch assembly.

3. The transdermal delivery device of Claim 2, wherein the control switch assembly is a mechanical switch or an electronic switch.

4. The transdermal delivery device of Claims 1-3, wherein the device further includes a compressed gas cartridge.

5. The transdermal delivery device of Claim 4, wherein the compressed gas cartridge is a 16 g compressed gas cartridge.

6. The transdermal delivery device of Claim 4 or 5, wherein the compressed gas cartridge contains carbon dioxide.

7. The transdermal delivery device of Claims 1-6, wherein the permeation valve is set to reduce the pressure of a gas to below 40 psi.

8. The transdermal delivery device of Claims 1-7, wherein the permeation valve comprises a permeable member selected from rubber, cork, textile, porous polymer, densely sintered metal and combinations thereof.

9. A transdermal delivery device comprising

a cylinder containing pressurized carbon dioxide;

a permeation valve configured to reduce the pressure of the pressurized carbon dioxide;

a chamber configured to supersaturate a liquid in the chamber with carbon dioxide thereby forming a therapeutic vapor; and

a treatment chamber configured to deliver the therapeutic vapor to an individual.

10. A method of transdermally administering a therapeutically effective amount of dissolved molecular carbon dioxide to an individual, the method comprising the step of administering a composition comprising a vapor including a supersaturated amount of dissolved molecular carbon dioxide to the individual using a transdermal delivery device according to Claims 1-9.

11. A method of transdermally administering a therapeutically effective amount of a therapeutic agent to an individual, the method comprising the step of administering a composition comprising a vapor including a supersaturated amount of dissolved molecular carbon dioxide and a therapeutic agent to the individual using a transdermal delivery device according to Claims 1-9.

12. The method of Claim 10 or 11, wherein the amount of dissolved molecular carbon dioxide is at least 600 ppm.

13. The method of Claims 10-12, wherein the administration increases a blood flow.

14. The method of Claim 13, wherein the administration increases the blood flow by at least 10%.

15. The method of Claim 13, wherein the administration increases the blood flow by about 10% to about 100%.

16. The method of Claims 13-15, wherein the increased blood flow is for at least 5 minutes.

17. The method of Claims 13-15, wherein the increased blood flow is for about 5 minutes to about 240 minutes.

18. The method of Claims 9-17, wherein the administration decreases blood pressure.

19. The method of Claim 18, wherein the administration decreases blood pressure by at least 10%.

20. The method of Claim 18, wherein the administration decreases blood pressure by about 10% to about 100%.

21. The method of Claims 18-20, wherein the decreased blood pressure is for at least 5 minutes.

22. The method of Claims 18-21, wherein the decreased blood pressure is for about 4 hours to about 24 hours.

23. A method of treating a condition in an individual, the method comprising the step of administering a composition comprising a substance including a therapeutically effective amount of dissolved molecular carbon dioxide using a transdermal delivery device according to Claims 1-9 to the individual suffering from the condition, wherein the administration of the composition reduces a symptom associated with the condition.

24. The method of Claim 23, wherein the condition is an ischemia, a hypertension, a cardiovascular disorder, a diabetic disorder, a wound, a chronic inflammation, an arthritis, a migraine, a cellulite disorder, a pale skin disorder, or a cosmesis disorder.

25. The method of Claim 23 or 24, wherein the amount of dissolved molecular carbon dioxide is at least 600 ppm.

26. The method of Claims 23-25, wherein the administration increases blood flow.

27. The method of Claim 26, wherein the administration increases blood flow by at least 10%.

28. The method of Claim 26, wherein the administration increases blood flow by about 10% to about 100%.

29. The method of Claims 26-28, wherein the increased blood flow is for at least 5 minutes.

30. The method of Claims 26-28, wherein the increased blood flow is for about 5 minutes to about 240 minutes.

31. The method of Claims 23-30, wherein the administration decreases blood pressure.

32. The method of Claim 31, wherein the administration decreases blood pressure by at least 10%.

33. The method of Claim 31, wherein the administration decreases blood pressure by about 10% to about 100%.

34. The method of Claims 31-33, wherein the decreased blood pressure is for at least 5 minutes.

35. The method of Claims 31-33, wherein the decreased blood pressure is for about 4 hours to about 24 hours.