Claims:

1. An artificial bioxome particle comprising a cell membrane component and designed to undergo fusion with a target cell, wherein said bioxome particle is engineered to carry a cargo comprising at least one predetermined active molecule; and wherein said cargo can be released into the target cell after the fusion of the bioxome particle with the target cell; and wherein the cell membrane component is derived from a selected cellular or extracellular source.

2. The bioxome particle of claim 1, wherein the cargo comprises at least two active molecules.

3. The bioxome particle of claim 1 or 2, wherein the cargo comprises a plurality of active molecules.

4. The bioxome particle of any one of claims 1 to 3, wherein the source is selected from the group consisting of fibroblasts, mesenchymal stem cells, stem cells, cells of the immune system, dendritic cells, ectoderm, keratinocytes, cells of GI, cells of oral cavity, nasal mucosal cells, neuronal cells, retinal cells, endothelial cells, cardiospheres, cardiomyocytes, pericytes, blood cells, melanocytes, parenchymal cells, liver reserve cells, neural stem cells, pancreatic stem cells, embryonic stem cells, bone marrow, skin tissue, liver tissue, pancreatic tissue, biological fluids, excrement or surgery extracted tissues, milk, saliva, mucus, blood plasma, urine, feces, sebum, postnatal umbilical cord, placenta, amniotic sac, kidney tissue, neurological tissue, adrenal gland tissue, mucosal epithelium, smooth muscle tissue, a bacterial cell,

a bacterial culture, a whole microorganism, conditional medium, amniotic fluid, lipoaspirate, liposuction byproducts, and a plant tissue.

5. The bioxome particle of any one of claims 1 to 4, wherein the active molecule is selected from the group consisting of nucleic acid, peptide, amino acid, polypeptide, nucleoside, growth factor, organic molecule, polyphenol, steroid, lipophilic poor soluble drug, inorganic molecule, anti-oxidant, hormone, antibody, vitamin, cytokine, enzyme, heat shock protein, or a combination thereof.

6. The bioxome particle of claim 5, wherein the active molecule is selected from cannabinoid, cannabinoid acid, and endocannabinoid.

7. The bioxome particle of claim 5 or 6; wherein the cannabinoid, cannabinoid acid, and endocannabionoid is selected from the group consisting of tetrahydrocannabinolic acid (THCa), cannabidiolic acid (CBDa), cannabinolic acid (CBNa) cannabichromenic acid (CBCa), tetrahydrocannabinol (THC), cannabinol (CBN), cannabidiol (CBD), and cannabichromene (CBC), acylethanolamides.

8. The bioxome particle of claim 5, wherein the nucleic acid is ribonucleic acid (RNA) or deoxyribonucleic acid (DNA).

9. The bioxome particle of claim 8, wherein the nucleic acid is RNA, and is selected from the group consisting of siRNA, an antisense RNA, iRNA, microRNA, an antagomir, an aptamer, and a ribozyme mRNA.

10. The bioxome particle of any one of claims 1 to 9, wherein the active molecule has a therapeutic effect.

11. The bioxome particle of claim 10, wherein the therapeutic effect is selected from the group consisting of anti-inflammatory effect, anti-fibrotic effect, anti-tumor effect, and neuroprotective effect.

12. The bioxome of any one of claims 1 to 11 which is a redoxome, wherein the cargo comprises at least one redox active free-radicals scavenging compound.

13. The redoxome of claim 12, comprising fenton reaction complex blockers, hydroxyl radical trap, iron chelator and a lipid radical trap.

14. The redoxome of claim 12 or 11, capable of blocking LPO chain reaction, such as lipid radical/ peroxide trap, such as vitamin E, terpenoids, polyphenols, flavonoid, phenolic acids, cannabinoids, retinoids, vitamin D, lipoic acid, sterols.

15. The redoxome of claim 13 or 14, wherein the radical trap is ascorbic acid, nitric oxid donor (S-nitrosoglutathione), or a derivative thereof.

16. The redoxome of any one of claims 12 to 15, wherein the iron chelator is selected from the group consisting of desferrioxamine (DFX), ethylenediaminetetraacetic acid (EDTA), rutin, disodium EDTA, tetrasodium EDTA, calcium disodium EDTA, diethylenetriaminepentaacetic acid (DTPA) or a salt thereof, hydroxyethlethylenediaminetriacetic

acid (HEDTA) or a salt thereof, nitrilotriacetic acid (NTA), acetyl trihexyl citrate, aminotrimethylene phosphonic acid, beta-alanine diacetic acid, bismuth citrate, citric acid, cyclohexanediamine tetraacetic acid, diammonium citrate, dibutyl oxalate, diethyl oxalate, diisobutyl oxalate, diisopropyl oxalate, dilithium oxalate, dimethyl oxalate, dipotassium EDTA, dipotassium oxalate, dipropyl oxalate, disodium EDTA-copper, disodium pyrophosphate, etidronic acid, HEDTA, methyl cyclodextrin, oxalic acid, pentapotassium, triphosphate, pentasodium aminotrimethylene phosphonate, pentasodium pentetate, pentasodium triphosphate, pentetic acid, dicarboxyic acid, phytic acid, potassium citrate, sodium citrate, sodium dihydroxyethylglycinate, sodium gluceptate, sodium gluconate, sodium hexametaphosphate, sodium metaphosphate, sodium metasilicate, sodium oxalate, sodium trimetaphosphate, tea-EDTA, tetrahydroxypropyl ethylenediamine, tetrapotassium etidronate, tetrapotassium pyrophosphate, tetrasodium etidronate, tetrasodium pyrophosphate, tripotassium EDTA, trisodium EDTA, trisodium hedta, trisodium NTA, trisodium phosphate, malic acid, fumaric acid, maltol, succimer, penicillamine, dimercaprol, deferipron, a natural protein based iron chelator, melatonin, siderphore, zinc or copper cation, or salt or complex, and desferrioxamine mesylate, or a combination thereof.

17. The redoxome of claim 16, wherein the iron chelator is selected from the group consisting of EDTA (ethylenediaminetetraacetic acid), DTPA (diethylene triamine pentaacetic acid), NTA (nitrilotriacetic acid), detoxamin, deferoxamine, deferiprone, deferasirox,

glutathione, metalloprotein, ferrochel (bis-glycinate chelate), ceruloplasmin, penicillamine, cuprizone, trientine, ferrulic acid, zinc acetate, lipocalin 2, and dimercaprol.

18. The bioxome particle of any one of claims 1 to 17 which is a long circulating, slow release bioxome.

19. The bioxome of any one of claims 1 to 18 which is a selective targeting bioxome.

20. The bioxome of any one of claims 1 to 19 which is an immunogenic bioxome.

21. A composition comprising the bioxome particle of any one of claims 1 to 20 and at least one carrier.

22. The composition of claim 21, wherein the composition is a pharmaceutical composition and the carrier is a pharmaceutically acceptable carrier.

23. The composition of claim 21 or 22, wherein the composition is suitable for oral, intravenous, subcutaneous, intraperitoneal, sublingual, intra-tissue, through tissue inserted implant administration, intrathecal, intra-muscular, topical, ocular, intra-nasal, rectal, vaginal, pulmonary, transmucosal and transdermal administration.

24. The composition of claim 21, wherein the composition is a cosmeceutical composition and the carrier is a cosmeceutically acceptable carrier.

25. The composition of claim 21, wherein the composition is an edible composition, and the carrier is food grade carrier.

26. A process for the manufacture of a sample comprising a plurality of bioxome particles, wherein the bioxome particles are engineered to carry a cargo comprising at least one active molecule and designed to undergo fusion with a target cell to release the cargo; and wherein said bioxome particles comprise a cell membrane component derived from a selected cellular or extracellular source; the process comprising:
    a. Performing total cell lipid extraction from the selected cellular or extracellular source in a mild solvent system to obtain a lipid extract;
    b. Drying the lipid extract; and
    c. Inducing self-assembly of bioxome particles by performing at least one step of ultra-sonication;
    wherein the resulting bioxome particles in the sample are characterized by an average particle size of about 0.03µm to 5µm.

27. The process of claim 26, wherein the average particle size is 0.05µm to 3µm.

28. The process of claim 27, wherein the average particle size is 0.08µm to 1.5µm.

29. The process of any one of claims 26 to 28, wherein the sample comprising the bioxome particle has the pH of 3.5 to 5.5.

30. The process of claim 29, wherein the sample comprising the bioxome particle has the pH of 4.5 to 5.

31. The process of any one of claims 26 to 30, wherein the mild solvent system comprises a mixture of polar and non-polar solvents.

32. The process of any one of claim 31, wherein the polar solvent in the solvent system is selected from the group consisting of isopropanol, ethanol, n-butanol, and water-saturated n-butanol.

33. The process of any one of claims 31 or 32, wherein the non-polar solvent in the solvent system is selected from hexane ,solvents from the terpene group, and supercritical CO^2 extraction.

34. The process of claim 33, wherein the non-polar solvent in the solvent system is n-hexane.

35. The process of claim 33, wherein the solvent from the terpene group is selected from the group consisting of d-limonene, α-pinene and para-cymene.

36. The process of any one of claims 31 to 34, wherein the polar solvent in the solvent system is isopropanol, and the non-polar solvent is n-hexane.

37. The process of any one of claims 26 to 36, wherein the solvent system further comprises a stabilizer.

38. The process of claim 37, wherein the stabilizer is butyl-hydroxytoluene (BHT) or a lipid radical trap.

39. The process of any one of claims 26 to 38, wherein the solvent system further comprises an antioxidant, a surfactant, vitamin E, squalene, cholesterol, or a combination thereof.

40. The process of any one of claims 26 to 39, further comprising the step of co-precipitation of a nucleic acid.

41. The process of claim 40, wherein the nucleic acid is ribonucleic acid (RNA) or deoxyribonucleic acid (DNA).

42. The process of claim 41, wherein the nucleic acid is RNA.

43. The process of any one of claims 26 to 42, wherein the cellular or extracellular source for total lipid extraction is selected from the group consisting of fibroblasts, mesenchymal stem cells, stem cells, cells of the immune system, dendritic cells, ectoderm, keratinocytes, cells of GI, cells of oral cavity, nasal mucosal cells, neuronal cells, retinal cells, endothelial cells, cardiospheres, cardiomyocytes, pericytes, blood cells, melanocytes, parenchymal cells, liver reserve cells, neural stem cells, pancreatic stem cells, embryonic stem cells, bone marrow, skin tissue, liver tissue, pancreatic tissue, postnatal umbilical cord, placenta, amniotic sac, kidney tissue, neurological tissue, adrenal gland tissue, mucosal epithelium, smooth muscle tissue, a bacterial cell, a bacterial culture, a whole microorganism, conditional medium, amniotic fluid, lipoaspirate, liposuction byproducts, and a plant tissue.

44. The process of any one of claims 26 to 43, wherein the lipid extraction is performed from cell-conditioned media, lyophilized conditioned cell media, cell pellet, frozen cells, dry cells, washed cell bulk, non-adhesive cell suspension, and adhesive cell layer.

45. The process of claim 44, wherein the adhesive cell layer is grown in cell culture plasticware selected from a (multi)flask, a dish, a scaffold, beads, and a bioreactor.

46. A sample comprising a plurality of bioxome particles, prepared according to the process of any one of claims 26 to 45.

47. A method of treating or preventing a pathology in a subject in need of such treatment, comprising administering to the subject the pharmaceutical composition of any one of claims 21 to 23.

48. The method of claim 47, wherein the pathology is selected from the group consisting of an inflammatory disorder, a neurological disorder, an infectious disorder, a malignancy, a disorder of the immune system, and an autoimmune disorder.

49. A method of improving a skin condition in a subject in need comprising administering to the subject the composition of any one of claims 21 to 24.

50. The method of claim 49, wherein the composition is administered topically.

51. Use of the bioxome particle of any one of claims 19 to 31 as a vehicle for delivery of active molecules to the target site.

52. The bioxome particle of any one of claims 1 to 20 for use as a medicament.

53. The bioxome particle of any one of claims 19 to 31 for use in the treatment of an inflammatory disorder, a neurological disorder, an infectious disorder, a malignancy, a disorder of the immune system, and an autoimmune disorder.