CLAIMS

1. A liposomal formulation for ocular drug delivery comprising:

(i) liposomes comprising at least one lipid bilayer; and

(ii) latanoprost encapsulated in the liposomes,

wherein the liposomes have a mean diameter of less than 2 μm , the liposomes comprise phosphatidylcholines, the liposomes are free of sphingolipids, and the liposomal formulation has a latanoprost to lipid mole ratio of about 0.01 to about 0.50.

2. The liposomal formulation as claimed in claim 1, wherein the liposomal formulation has a latanoprost to lipid mole ratio of about 0.01 to about 0.37.

3. The liposomal formulation as claimed in claim 2, wherein the liposomal formulation has a latanoprost to lipid mole ratio of about 0.015 to about 0.37.

4. The liposomal formulation as claimed in claim 3, wherein the liposomal formulation has a latanoprost to lipid mole ratio of about 0.04 to about 0.37.

5. The liposomal formulation as claimed in any one of claims 1 to 4, wherein the liposomes comprise mixtures of phosphatidylcholines and at least one of ~~sphingolipids,~~ sterol lipids, saccharolipids, or polyketide lipids.

6. The liposomal formulation as claimed in any one of claims 1 to 5, wherein the phosphatidylcholines are selected from the group consisting of 1,2-dioleoyl-sn-glycero-3-phosphocholines (DOPC), 1,2-dioleoyl-sn-glycero-O-ethyl-3-phosphocholines, 1,2-Dilauroyl-sn-glycero-3-phosphocholines (DLPC), 1,2-Dimyristoyl-sn-glycero-3-phosphocholines (DMPC), 1,2-Dipalmitoyl-sn-glycero-3-phosphocholines(DPPC), 1,2-Distearoyl-sn-glycero-3-phosphocholines (DSPC) and mixtures thereof.

7. The liposomal formulation as claimed in claim 6, wherein the phosphatidylcholines are 1,2-Dipalmitoyl -sn-glycero-3-phosphocholines (DPPC).

8. The liposomal formulation as claimed in any one of claims 1 to 7, wherein the phosphatidylcholines each comprises at least one unsaturated fatty acid moiety.

9. The liposomal formulation as claimed in claim 8, wherein the phosphatidylcholines each comprises L-α-phosphatidylcholine or 95% Egg phosphatidylcholines (eggPC 95%).

~~10. The liposomal formulation as claimed in any one of claims 5 to 9, wherein the sphingolipids each comprises at least one unsaturated fatty acid moiety.~~

~~11. The liposomal formulation as claimed in claim 10, wherein the sphingolipids each comprises hexadecanoylsphingomyelin or Egg Sphingomyelin.~~

~~12.~~10. The liposomal formulation as claimed in any one of the preceding claims, wherein the liposomes have a mean diameter of less than 1 μm.

~~13.~~11. The liposomal formulation as claimed in claim ~~12~~10, wherein the liposomes have a mean diameter of about 100 nm to about 300 nm.

~~14.~~12. The liposomal formulation as claimed in any one of the preceding claims, wherein the liposomes are small unilamellar vesicles (SUV), large unilamellar vesicles (LUV), or multilamellar vesicles.

~~15.~~13. The liposomal formulation as claimed in claim 1, wherein the liposomal formulation has a latanoprost to lipid mole ratio of about 0.50.

~~16.~~14. The liposomal formulation as claimed in any one of claims 1 to ~~14~~12, wherein the liposomal formulation has a latanoprost to lipid mole ratio of about 0.18.

~~17.~~15. The liposomal formulation as claimed in any one of the preceding claims, wherein the liposomal formulation has a polydispersity index of less than or equal to 0.25.

~~18.~~16. The liposomal formulation as claimed in any one of the preceding claims, wherein the liposome further comprises cholesterol.

~~19.~~17. The liposomal formulation as claimed in claim ~~18~~16, wherein the cholesterol is of an amount of about 10 % to about 40 % by weight of the liposome.

~~20.~~18. The liposomal formulation as claimed in any one of the preceding claims, wherein the liposome further comprises a linear C_8-C_{20} alkyl or alkenyl amine.

~~21.~~19. The liposomal formulation as claimed in claim ~~20~~18, wherein the linear C_8-C_{20} alkyl or alkenyl amine is stearyl amine.

~~22.~~20. The liposomal formulation as claimed in claim ~~21~~19, wherein the stearyl amine is of an amount of about 5 % to about 25 % by weight of the liposome.

~~23.~~21. The liposomal formulation as claimed in claim ~~22~~20, wherein the stearyl amine is of an amount of about 10 % to about 20 % by weight of the liposome.

~~24.~~22. A pharmaceutical composition comprising the liposomal formulation as claimed in any one of claims ~~1-23~~1-21.

~~25.~~23. The pharmaceutical composition as claimed in claim ~~24~~22, wherein the pharmaceutical composition is in a form of an ophthalmic solution.

~~26.~~24. The pharmaceutical composition as claimed in claim ~~25~~23, wherein the pharmaceutical composition is for use in ocular drug delivery in an injection solution or a viscous aqueous vehicle.

~~27.~~25. The pharmaceutical composition as claimed in claim ~~26~~24, wherein the viscous aqueous vehicle comprises an aqueous solution of polysaccharides.

~~28.~~26. The pharmaceutical composition as claimed in claim ~~27~~25, wherein the polysaccharide is hyaluronic acid.