CLAIMS:

1. An adjuvant formulation comprising
unilamellar liposomes having a liposome bilayer that consists of:

(a) at least one phosphatidylcholine (PC) and/or phosphatidylglycerol (PG), as phospholipids, selected from the group consisting of: dimyristoyl phosphatidylcholine (DMPC), dipalmitoyl phosphatidylcholine (DPPC), distearyl phosphatidylcholine (DSPC), dimyristoyl phosphatidylglycerol (DMPG), dipalmitoyl phosphatidylglycerol (DPPG), and distearyl phosphatidylglycerol (DSPG);

(b) cholesterol;

(c) monophosphoryl lipid A (MPLA); and

(d) a saponin; and

wherein the mole ratio of the cholesterol (b) to the phospholipids (a) is greater than about 50:50; and wherein the unilamellar liposomes have a median diameter size in micrometer range as detected by light scattering analysis.

2. The adjuvant formulation of claim 1, wherein the saponin is QS-7, QS-18, QS-21, or a mixture thereof.

3. The adjuvant formulation of claim 1, wherein the saponin is QS-21.

4. The adjuvant formulation of claim 1, wherein the mole ratio of the cholesterol (b) to the phospholipids (a) is about 55:45 to about 71:29.

5. The adjuvant formulation of claim 1, wherein the mole ratio of the cholesterol (b) to the phospholipids (a) is about 55:45.

6. The adjuvant formulation of claim 1, wherein the dimyristoyl phosphatidylcholine (DMPC), is selected as a phospholipid.

7. The adjuvant formulation of claim 6, wherein additionally, dimyristoyl phosphatidylglycerol (DMPG) is selected as a phospholipid.

8. The adjuvant formulation of claim 1, wherein both a PC and a PG are selected as phospholipids, and wherein the ratio of the PC to the PG (mol/mol) is about 0.5:1, about 1:1, about 2:1, about 3:1, about 4:1, about 5:1, about 6:1, about 7:1, about 8:1, about 9:1, about 10:1, about 11:1, about 12:1, about 13:1, about 14:1, or about 15:1.

9. A liposome suspension comprising the adjuvant formulation of claim 1 and phosphate-buffered saline (PBS), pH 7.4, wherein the liposome suspension comprises (i) 1.272 mM to 50 mM of the phospholipids (a), and (ii) about 5 mg/ml or less of the MPLA (c).

10. The adjuvant formulation of claim 1, wherein the mole ratio of the MPLA (c) to the phospholipids (a) is about 1:5.6 to about 1:880.

11. A liposome suspension comprising the adjuvant formulation of claim 1 and phosphate-buffered saline (PBS), pH 7.4, wherein the liposome suspension comprises (i) 1.272 mM to 50 mM of the phospholipids (a), and (ii) about 1 mg/ml or less of the saponin (d).

12. An immunogenic composition comprising an immunogen and the adjuvant formulation of claim 1.

13. The immunogenic composition of claim 12, further comprising a physiologically acceptable vehicle.

14. The immunogenic composition of claim 12, wherein the immunogen is selected from the group consisting of a naturally-occurring or artificially-created protein, a recombinant protein, a glycoprotein, a peptide, a carbohydrate, a hapten, a whole virus, a bacterium, a protozoan, and a virus-like particle.

15. The immunogenic composition of claim 14, wherein the immunogen is an HIV-1 envelop protein.

16. The adjuvant formulation of claim 10, wherein the mole ratio of the MPLA (c) to the phospholipids (a) is about 1:88 to about 1:220.