

What is claimed is:

1. A polymeric composition comprising:
 - a) a strong acid salt of a LHRH agonist or antagonist wherein the molar ratio of anion to the LHRH agonist or antagonist is from 1:1 to 2:1 inclusive;
 - b) a biodegradable polymer selected from the group of a homopolymer polylactide or polylactic acid, and a copolymer poly (lactic acid-co-glycolic acid) or poly (lactide-co-glycolide), wherein the ratio of lactide:glycolide (or lactic acid:glycolic acid) of the copolymer is from 50:50 to 100:0 inclusive; and
 - c) a pharmaceutically acceptable organic solvent.
2. The polymeric composition of claim 1 wherein the polymeric composition is injected into a mammal tissue to form a depot from which the LHRH agonist or antagonist can be released over a period of time ranging from one month to 6 months.
3. The polymeric composition of claim 1 wherein the strong acid salt of the LHRH agonist is a leuprolide mesylate.
4. The polymeric composition of claim 3 wherein the composition does not contain excess strong acid.
5. The polymeric composition of claim 3 wherein the leuprolide mesylate is prepared by ion exchange by dissolving a leuprolide salt of a weak acid in a liquid medium to form a solution, mixing in a methane sulfonic acid solution to make a mixture, and

removing the liquid medium and any dissociated weak acid to form the leuprolide mesylate.

6. The polymeric composition of claim 3 wherein the leuprolide mesylate is prepared by salt exchange by loading a leuprolide salt of a weak acid on an ion exchange column, washing off the weak acid from the column, eluting leuprolide off the column with a methane sulfonic acid solution to obtain leuprolide mesylate solution, and removing the liquid medium through evaporation and lyophilization.
7. The polymeric composition of claim 1 wherein the biodegradable polymer has at least one hydroxyl terminal group.
8. The polymeric composition of claim 1 wherein the biodegradable polymer has 30 – 60% of the composition by weight, has an average molecular weight of 8,000 to 50,000, and has a polydispersity less than or equals to 2.5.
9. The polymeric composition of claim 1 wherein the pharmaceutically acceptable organic solvent is selected from the group of N-methyl-2-pyrrolidone, dimethylacetamide, dimethyl sulfoxide, and any combinations thereof.
10. A polymeric composition comprising:
 - a) a leuprolide mesylate, wherein the molar ratio of mesylate to leuprolide is from 1:1 to 2:1 inclusive;
 - b) a biodegradable polymer selected from the group of a homopolymer polylactide or polylactic acid, and a copolymer poly (lactic acid-co-glycolic acid)

or poly (lactide-co-glycolide), wherein the ratio of lactide:glycolide (or lactic acid:glycolic acid) of the copolymer is from 50:50 to 100:0 inclusive; and

c) a pharmaceutically acceptable organic solvent.

11. The polymeric composition in claim 10, wherein the polymeric composition is injected into a mammal tissue to form a depot from which the leuprolide mesylate can be released over a period of time ranging from one month to 6 months.
12. The polymeric composition of claim 10 wherein the composition does not contain excess strong acid.
13. The polymeric composition of claim 10 wherein the leuprolide mesylate is prepared by ion exchange by dissolving a leuprolide salt of a weak acid in a liquid medium to form a solution, mixing in a methane sulfonic acid solution to make a mixture, and removing the liquid medium and any dissociated weak acid to form the leuprolide mesylate.
14. The polymeric composition of claim 10 wherein the leuprolide mesylate is prepared by salt exchange by loading a leuprolide salt of a weak acid on an ion exchange column, washing off the weak acid from the column, eluting leuprolide off the column with a methane sulfonic acid solution to obtain leuprolide mesylate solution, and removing the liquid medium through evaporation and lyophilization.
15. The polymeric composition of claim 10 wherein the biodegradable polymer has at least one hydroxyl terminal group.

16. The polymeric composition of claim 10 wherein the biodegradable polymer has 30 – 60% of the composition by weight, has an average molecular weight of 8,000 to 50,000, and has a polydispersity less than or equals to 2.5.
17. The polymeric composition of claim 10 wherein the pharmaceutically acceptable organic solvent is selected from the group of N-methyl-2-pyrrolidone, dimethylacetamide, dimethyl sulfoxide, and any combinations thereof.
18. A polymeric composition comprising:
- a) a leuprolide mesylate, wherein the molar ratio of mesylate to leuprolide is from 1.4:1 to 2:1 inclusive;
 - b) a biodegradable homopolymer polylactide or polylactic acid; and
 - c) a pharmaceutically acceptable organic solvent, selected from the group of N-methyl-2-pyrrolidone, dimethylacetamide, dimethyl sulfoxide, and any combinations thereof;
- wherein the composition does not contain excess strong acid;
- wherein the composition is injected into a mammal tissue to form a depot from which leuprolide can be released over 6 months.
19. The polymeric composition of claim 18 wherein the molar ratio of mesylate to leuprolide is from 1.5:1 to 1.8:1 inclusive.
20. The polymeric composition of claim 18 wherein the leuprolide mesylate has a pH greater than 3.
21. A polymeric composition comprising:

- d) a leuprolide mesylate, wherein the molar ratio of mesylate to leuprolide is from 1.4:1 to 2:1 inclusive;
- e) a biodegradable copolymer poly(lactic acid-co-glycolic acid), or poly (lactide-co-glycolide), wherein the ratio of lactide:glycolide (or lactic acid:glycolic acid) of the copolymer is 85:15; and
- f) a pharmaceutically acceptable organic solvent, selected from the group of N-methyl-2-pyrrolidone, dimethylacetamide, dimethyl sulfoxide, and any combinations thereof;

wherein the composition does not contain excess strong acid;

wherein the composition is injected into a mammal tissue to form a depot from which leuprolide can be released over 3 months.

22. The polymeric composition of claim 21 wherein the molar ratio of mesylate to leuprolide is from 1.5:1 to 1.8:1 inclusive.

23. The polymeric composition of claim 21 wherein the leuprolide mesylate has a pH greater than 3.