CLAIMS

1. A sterile aqueous pharmaceutical intratympanic composition for use in the treatment of an otic disease or condition comprising a thermoreversible gel and a multiparticulate antimicrobial agent;

wherein the composition is free of preservatives;

wherein the thermoreversible gel comprises a copolymer of polyoxyethylene and polyoxypropylene, and the composition is administered as a liquid at about room temperature and gels at about between room temperature and about body temperature; and

wherein the composition provides sustained release of the antimicrobial agent into the ear for a period of at least 5 days after a single administration.

2. The composition of claim 1, wherein the composition provides sustained release of the antimicrobial agent in the ear for a period of at least 7 days after a single administration.

3. The composition of claim 1, wherein the copolymer of polyoxyethylene and polyoxypropylene is Poloxamer 407.

4. The composition of claim 1, wherein the antimicrobial agent is essentially in the form of micronized particles.

5. The composition of claim 1, wherein the antimicrobial agent is an antibiotic.

6. The composition of claim 5, wherein the antibiotic is selected from a sulfonamide, a penicillin, a quinolone, a cephalosporin or a macrolide antibiotic.

7. The composition of claim 5, wherein the antibiotic is a sulfonamide selected from afenide, prontosil, sulfacetamide, sulfamethiazole, sulfanilimide, sulfasalazine, sulfisoxazole, trimethoprim, and cotrimoxazole.

8. The composition of claim 5, wherein the antibiotic is a penicillin selected from amoxicillin, ampicillin, azociling, carbenicillin, cloxacillin, dicloxacillin, flucloxacillin, mezlocillin, meticillin, nafcillin, oxacillin, peperacillin, and ticarcillin.

9. The composition of claim 5, wherein the antibiotic is a quinolone selected from ciprofloxacin, enoxacin, gatifloxacin, levofloxacin, lomefloxacin, moxifloxacin, nonfloxacin, ofloxacin, trovafloxacin, grepafloxacin, sparfloxacin, AL-15469A, and AL-38905.

10. The composition of claim 5, wherein the antibiotic is a cephalosporin selected from cefaclor, cefamandole, cefotoxin, cefprozil, cefuroxime, cefixime, cefdinir, cefditoren, cefpodoxime, ceftazidime, ceftibuten, ceftizoxime, ceftriaxone, cefepime, and ceftobirprole.

11. The composition of claim 5, wherein the antibiotic is a macrolide antibiotic selected from azithromycin, clarithromycin, dirithromycin, erythromycin, roxithromycin, troleandomycin, telithromycin, and spectinomycin.

12. The composition of claim 1, wherein the antimicrobial agent is an antifungal agent.

13. The composition of claim 12, wherein the antifungal agent is selected from amrolfine, utenafine, naftifine, terbinafine, flucytosine, fluconazole, itraconazole, ketoconazole, posaconazole, ravuconazole, voriconazole, clotrimazole, econazole, miconazole, oxiconazole, sulconazole, terconazole, tioconazole, nikkomycin Z, caspofungin, micafungin, anidulafungin, amphotericin B, liposomal nystastin, pimaricin, griseofulvin, ciclopirox olamine, haloprogin, tolnaftate, undecylenate, and clioquinol.

14. The composition of any one of claims 1-13, wherein the otic disease or condition is otitis media.

15. The composition of any one of claims 1-13, wherein the composition is administered in combination with tympanosotomy.

CLAIMS

1. Use of a composition in the manufacture of a medicament for the treatment of an otic disease or condition comprising a thermoreversible gel and a micronized antimicrobial agent;

wherein the thermoreversible gel comprises a copolymer of polyoxyethylene and polyoxypropylene, having a gelation temperature of between 19°C and 42°C;

wherein the composition is to be administered by intratympanic injection; and

wherein the composition provides a sustained release of the antimicrobial agent in the ear for a period of at least 5 days after a single intratympanic injection.

2. The use of claim 1, wherein the composition provides sustained release of the antimicrobial agent in the ear for a period of at least 7 days after a single injection.

3. The use of claim 1, wherein the copolymer of polyoxyethylene and polyoxypropylene is Poloxamer 407.

4. The use of claim 1, wherein the antimicrobial agent is an antibiotic.

5. The use of claim 4, wherein the antibiotic is selected from a sulfonamide, a penicillin, a quinolone, a cephalosporin or a macrolide antibiotic.

6. The use of claim 4, wherein the antibiotic is a sulfonamide selected from afenide, prontosil, sulfacetamide, sulfamethiazole, sulfanilimide, sulfasalazine, sulfisoxazole, trimethoprim, and cotrimoxazole.

7. The use of claim 4, wherein the antibiotic is a penicillin selected from amoxicillin, ampicillin, azociling, carbenicillin, cloxacillin, dicloxacillin, flucloxacillin, mezlocillin, meticillin, nafcillin, oxacillin, peperacillin, and ticarcillin.

8. The use of claim 4, wherein the antibiotic is a quinolone selected from ciprofloxacin, enoxacin, gatifloxacin, levofloxacin, lomefloxacin, moxifloxacin, nonfloxacin, ofloxacin, trovafloxacin, grepafloxacin, sparfloxacin, AL-15469A, and AL-38905.

9. The use of claim 4, wherein the antibiotic is a cephalosporin selected from cefaclor, cefamandole, cefotoxin, cefprozil, cefuroxime, cefixime, cefdinir, cefditoren, cefpodoxime, ceftazidime, ceftibuten, ceftizoxime, ceftriaxone, cefepime, and ceftobirprole.

10. The use of claim 4, wherein the antibiotic is a macrolide antibiotic selected from azithromycin, clarithromycin, dirithromycin, erythromycin, roxithromycin, troleandomycin, telithromycin, and spectinomycin.

11. The use of claim 1, wherein the antimicrobial agent is an antifungal agent.

12. The use of claim 11, wherein the antifungal agent is selected from amrolfine, utenafine, naftifine, terbinafine, flucytosine, fluconazole, itraconazole, ketoconazole, posaconazole, ravuconazole, voriconazole, clotrimazole, econazole, miconazole, oxiconazole, sulconazole, terconazole, tioconazole, nikkomycin Z, caspofungin, micafungin, anidulafungin, amphotericin B, liposomal nystastin, pimaricin, griseofulvin, ciclopirox olamine, haloprogin, tolnaftate, undecylenate, and clioquinol.

13. The use of any one of claims 1-12, wherein the otic disease or condition is otitis media.

14. The use of any one of claims 1-12, wherein the composition is administered in combination with tympanosotomy.