Claims

1. A topical pharmaceutical composition comprising TPGS (Tocopheryl Polyethylene Glycol Succinate) and cyclosporin A wherein the formulation is a suspension of micro-particles or nano-particles.

2. A composition according to claim 1 further comprising a poloxamer.

3. A composition according to claim 2 wherein the composition comprises 1 % TPGS and 1 % Poloxamer 407.

4. A composition according to claims 1-3 wherein the cyclosporin A is crystalline.

5. A composition according to claims 1-3 wherein the cyclosporin A is micronized before formulation.

6. A pharmaceutical composition according to claims 1-5 wherein the formulation consists of particles where greater than 50% of the particles are less than 1 micrometer in diameter.

7. A pharmaceutical composition according to claims 1-6 further comprising a mucoadhesive, wherein the mucoadhesive is selected from lectins, carbopol (polyacrylic acid), chitosan, hydroxyethyl cellulose, hydroxypropyl cellulose, or sodium carboxymethyl cellulose.

8. A pharmaceutical composition according to claims 2-7 further comprising an antimicrobial preservative, wherein the antimicrobial preservative is chlorhexidine.

9. A pharmaceutical composition according to claim 8 wherein the composition is formulated with 15-20% poloxamer 407.

10. A composition according to claims 2-9 for use in the treatment of periodontal disease, wherein the periodontal disease affects humans or canines.