Claims

1. A mucosal patch comprising:

a drug-delivery layer comprising electrospun fibers, wherein the electrospun fibers comprise:

polyvinylpyrrolidone, an ammonio methacrylate copolymer type B; and

polyethylene oxide

and

a backing layer comprising poly(caprolactone).

2. The mucosal patch of claim 1, wherein the electrospun fibers further comprise clobetasol propionate.

3. The mucosal patch of claim 1 or 2, wherein the amount of polyethylene oxide in the drug-delivery layer is 8% to 50% by weight.

4. The mucosal patch of claim 1 or 2, wherein the amount of polyethylene oxide in the drug-delivery layer is 50% by weight.

5. The mucosal patch of any one of claims 1 to 4, wherein the weight ratio of polyethylene oxide to polyvinylpyrrolidone and ammonio methacrylate copolymer type B is 0.1 to 2.

6. The mucosal patch of claim 1 or 2, wherein the amount of polyvinylpyrrolidone and ammonio methacrylate copolymer type B in the drug-delivery layer is 50% to 85% by weight.

7. The mucosal patch of claim 1 or 2, wherein the amount of polyvinylpyrrolidone and ammonio methacrylate copolymer type B in the drug-delivery layer is 50% by weight.

8. The mucosal patch of any one of claims 1 to 7, wherein the average molecular weight of the polyethylene oxide is 100,000 Da to 4,000,000 Da.

9. The mucosal patch of any one of claims 1 to 8, wherein the weight average molecular weight of the polyvinylpyrrolidone is 900,000 Da to about 3,000,000 Da.

10. The mucosal patch of any one of claims 1 to 8, wherein the weight average molecular weight of the polyvinylpyrrolidone is 1,500,000 Da.

11. The mucosal patch of any one of claims 1 to 10, wherein the poly(caprolactone) comprises melted electrospun poly(caprolactone) fibers.

12. The mucosal patch of any one of claims 1 to 11, wherein the backing layer further comprises a pigment.

13. The mucosal patch for use in the treatment of oral lichen planus, comprising:
a drug-delivery layer comprising electrospun fibers, wherein the electrospun fibers comprise:
clobetasol propionate;
a fibre-forming hydrophilic polymer; and
a bioadhesive substance;
and
a hydrophobic backing layer.

14. The mucosal patch of claim 13, wherein the a fibre-forming hydrophilic polymer is selected from polyvinylpyrrolidone (PVP), ethylcellulose, hydroxypropylcellulose, acrylates and acrylic copolymers (Eudragit®), and mixtures thereof.

15. The mucosal patch of claim 14, wherein the fibre-forming hydrophilic polymer comprises polyvinylpyrrolidone and ammonio methacrylate copolymer type B.

16. The mucosal patch of any one of claims 13-15, wherein the bioadhesive substance is selected from dextrans, polyethylene oxides (PEOs), alginate, tragacanth, carrageenan, pectin, guar, xanthan, gellan, methylcellulose, hydroxypropylmethylcellulose (HPMC), polyvinylalcohol (PVA), polymers of acrylic acids (PAA derivatives), chitosan, lectins, thiolated polymers, PAA-co-PEG (PEG is polyethylene glycol), and mixtures thereof.

17. The mucosal patch of any one of claims 13-16, wherein the bioadhesive substance comprises polyethylene oxide.

18. The mucosal patch of any one of claims 13-17, wherein the fibre-forming hydrophilic polymer comprises polyvinylpyrrolidone and ammonio methacrylate copolymer type B and the bioadhesive substance comprises polyethylene oxide.

19. The mucosal patch of any one of claims 13-18, wherein the hydrophobic layer comprises polycapronelactone or polyethylene-co-vinyl acetate, or mixtures thereof.

20. The mucosal patch of any one of claims 13-19, wherein the hydrophobic layer comprises polycapronelactone.

21. The mucosal patch of any one of claims 16-20, wherein the amount of polyethylene oxide in the drug-delivery layer is 8% to 50% by weight.

22. The mucosal patch of any one of claims 16-20, wherein the amount of polyethylene oxide in the drug-delivery layer is 50% by weight.

23. The mucosal patch of any one of claims 14-22, wherein the weight ratio of polyethylene oxide to polyvinylpyrrolidone and ammonio methacrylate copolymer type B is 0.1 to 2.

24. The mucosal patch of any one of claims 14-22, wherein the amount of polyvinylpyrrolidone and ammonio methacrylate copolymer type B in the drug-delivery layer is 50% to 85% by weight.

25. The mucosal patch of any one of claims 14-22, wherein the amount of polyvinylpyrrolidone and ammonio methacrylate copolymer type B in the drug-delivery layer is 50% by weight.

26. The mucosal patch of any one of claims 16-25, wherein the average molecular weight of the polyethylene oxide is 100,000 Da to 4,000,000 Da.

27. The mucosal patch of any one of claims 14-26, wherein the weight average molecular weight of the polyvinylpyrrolidone is 900,000 Da to 3,000,000 Da.

28. The mucosal patch of any one of claims 14-26, wherein the weight average molecular weight of the polyvinylpyrrolidone is 150,000 Da.

29. The mucosal patch of claim 20, wherein the poly(caprolactone) comprises melted electrospun poly(caprolactone) fibers.

30. The mucosal patch of any one of claims 14-29, wherein the patch is to be applied to the buccal mucosa of the patient.