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(54) Titre : COMPOSITION MEDICALE ET COSMETIQUE BIODEGRADABLE RESORBABLE COMPRENANT DU
POLY(1,3-TRIMETHYLENE CARBONATE)
(54) Title: RESORBABLE BIODEGRADABLE MEDICAL AND COSMETIC COMPOSITION COMPRISING POLY(1,3-
TRIMETHYLENE CARBONATE)

(57) Abrégé/Abstract:

The present invention relates to the field of resorbing biodegradable medical and cosmetic compositions.

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- (54) Title: RESORBABLE BIODEGRADABLE MEDICAL AND COSMETIC COMPOSITION COMPRISING POLY(1,3-TRIMETHYLENE CARBONATE)
- (57) Abstract: The present invention relates to the field of resorbing biodegradable medical and cosmetic compositions.

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Claims

1. An *in vivo* resorbable composition comprising a poly(1,3-trimethylene carbonate) polymer (PTMC) and a resorbable gel carrier, wherein the gel carrier is in the form of an aqueous polysaccharide gel, wherein the PTMC is in the form of microparticles with a diameter ranged
5 between 1 and 200 μm , and wherein the microparticles have homogenous content and density throughout the microparticle, are essentially round and have smooth surfaces.
2. An *in vivo* resorbable composition comprising a poly(1,3-trimethylene carbonate) polymer (PTMC) and a resorbable gel carrier, wherein the gel carrier is in the form of an aqueous
10 polysaccharide gel and the PTMC is in the form of a liquid polymer.
3. An *in vivo* resorbable composition according to claim 1 or 2, wherein the gel carrier comprises the viscoelastic feature of shear thinning.
- 15 4. An *in vivo* resorbable composition according to claim 1, 2 or 3, wherein the gel carrier comprises a polysaccharide selected from the group consisting of a cellulose-derivative polysaccharide, a starch, a chitin, a chitosan, a hyaluronic acid, a hydrophobically-modified polysaccharide, an alginate, a carrageenan, an agar, an agarose, an intramolecular complex of a polysaccharide, an oligosaccharide and a macrocyclic polysaccharide.
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5. An *in vivo* resorbable composition according to claim 4, wherein the polysaccharide gel carrier comprises a cellulose-derivative polysaccharide, preferably selected from the group consisting of carboxymethylcellulose, sodium carboxymethylcellulose, agar methylcellulose, hydroxypropyl methylcellulose, ethylcellulose, microcrystalline cellulose and oxidized
25 cellulose, more preferably the resorbable polysaccharide gel carrier comprises sodium carboxymethylcellulose.
6. An *in vivo* resorbable composition according to any one of claims 1 to 5, wherein the PTMC is a homopolymer, a linear polymer, a branched polymer, a copolymer, a terpolymer, a blend
30 or composite of different types of homo/co/ter-polymers, or a crosslinked polymer.
7. An *in vivo* resorbable composition according to any one of claims 1 to 6, wherein the PTMC has a number average molecular weight (M_n) of about 500 to about 600.000 g/mol, more preferably about 100.000 to about 600.000 g/mol.
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8. An *in vivo* resorbable composition according to any one of claims 1 to 7, wherein the PTMC is present in a concentration of about 1 to about 40 volume percent (v/v).
9. An *in vivo* resorbable composition according to any one of claims 1 to 8, wherein the gel
40 carrier material is present in a concentration of about 0.2 to about 20 weight percent (w/w).

10. An *in vivo* resorbable composition according to any one of claims 1 to 9, wherein the composition has a viscosity of about 5.000 to about 5.000.000 mPa.s at room temperature.
- 5 11. An *in vivo* resorbable composition according to any one of claims 1 to 10, wherein a further substance is present, preferably an active ingredient, preferably an anesthetic.
12. An *in vivo* resorbable composition according to any one of claims 1 to 11, wherein the composition is a pharmaceutical composition.
- 10 13. An *in vivo* resorbable composition according to any one of claims 1 to 12, wherein the composition is a cosmetic or esthetic composition.
14. An *in vivo* resorbable composition according to any one of claims 1 to 13, wherein the composition is a composition for augmenting tissue, preferably soft tissue, preferably an implant or filler for intradermal, deep-dermal, subdermal or subcutaneous use.
- 15 15. An *in vivo* resorbable composition according to any one of claims 1 to 14, for use as a medicament, preferably for treating a skin abnormality or disfigurement, for controlling bladder function, for controlling gastric reflux, for treating erectile dysfunction and/or premature ejaculation, for treating vocal cords, and/or for treatment of joint and cartilage diseases.
- 20 16. Use of an *in vivo* resorbable composition according to any one of claims 1 to 14 for the preparation of a medicament for treating a skin abnormality or disfigurement, for controlling bladder function, for controlling gastric reflux, for treating erectile dysfunction and/or premature ejaculation, for treating vocal cords, and/or for treatment of joint and cartilage diseases.
- 25 17. Use of an *in vivo* resorbable composition according to any one of claims 1 to 14 for the treatment a skin abnormality or disfigurement, for controlling bladder function, for controlling gastric reflux, for treating erectile dysfunction and/or premature ejaculation, for treating vocal cords, and/or for treatment of joint and cartilage diseases.
- 30 18. A method of treating a skin abnormality or disfigurement, controlling bladder function, controlling gastric reflux, treating erectile dysfunction and/or premature ejaculation, treating vocal cords, and/or treating joint and cartilage diseases comprising administration of an *in vivo* resorbable composition according to any one of claims 1 to 14.
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19. Use of an *in vivo* resorbable composition according to claim 13 or 14 in a cosmetic or esthetic application, preferably an application for augmenting tissue, more preferably an application as a dermal implant or dermal filler.