CLAIMS

1. A pasty, biocompatible material for use in a method of supporting new bone formation in a planar lesion (1) not determined by surrounding bone material, on a bone base (3) or on a bone, in particular in a jawbone, in which the pasty, biocompatible material is designed to harden after filling the planar lesions (1) not determined by surrounding bone material and to form a dimensionally stable molded part (7), in which the material consists of or comprises:

between 50% by weight and 70% by weight, preferably 65% by weight, of a calcium-containing base material,

between 15% by weight and 40% by weight, preferably 20% by weight, of mineral trioxide aggregate (MTA), and

between 15 % by weight and 25 % by weight of at least one antibiotic,

between 0.1 % by weight and 1.0 % by weight of a liquid, preferably demineralized water or sodium chloride solution (NaCl),

in which the molded part (7) is formable *in situ* in a planar lesion not determined by surrounding bone material, on a bone base (3) or on a bone, from a hardenable, pasty material,

and in which the base material is completely resorbed by the time new bone material has formed and/or bone augmentation has been completed.

2. A pasty, biocompatible material according to Claim 1, characterized in that

the base material is selected from the group consisting of: aragonite, mussel shell, shell lime, allogenic bone material, autogenic bone material, xenogenic bone material, FDBA (freeze-dried bone allografts), DFBA (decalcified freeze-dried bone allografts), algae or algae extract, ceramic , calcium phosphate, in particular tricalcium phosphate or tetracalcium phosphate, x- or β-tricalcium phosphate, hydroxylapatite, calcium phosphate ceramic, bioglass, aragonite-based bone replacement material (e.g. BioCoral ®) or mixtures thereof,

the mineral trioxide aggregate (MTA) comprises or consists of tricalcium silicate ($CaO_3 \cdot SiO_2$), dicalcium silicate ($CaO_2 \cdot SiO_2$), tricalcium aluminate ($CaO_3 \cdot Al_2O_3$) and gypsum ($CaSO_4 \cdot 2\ H_2O$), and

the antibiotic is selected from the group consisting of penicillin, amoxicillin, clindamycin, metronidazole, erythromycin, tetracycline, doxycycline, ciprofloxacin, levofloxacin, azithromycin, minocycline, lincomycin, gentamicin, vancomycin, moxifloxacin, rifampicin, sulfamethoxazole/trimethoprim, amikacin, ceftazidime, ceftriaxone, imipenem, meropenem, ampicillin, chloramphenicol, nystatin, ketoconazole, fluconazole or voriconazole or mixtures thereof.

3. A pasty, biocompatible material according to Claim 1 or 2, characterized in that the material contains at least one further substance, in particular in which the at least one further substance is selected from the group consisting of statin, vitamin, trace element, hyaluronic acid, hyaluronic acid derivative, collagen and/or mixtures thereof, in which the at least one further substance in particular has a portion of between 0.1 - 3 % by weight in particular between 0.2 - 1.5 % by weight preferably 0.25 % by weight of the pasty, biocompatible material.

4. A pasty, biocompatible material according to Claim 1, 2 or 3, characterized in that the mineral trioxide aggregate (MTA) contains

between 70 and 80% by weight, preferably 75% by weight, of a mixture of tricalcium silicate ($CaO_3 \cdot SiO_2$), dicalcium silicate ($CaO_2 \cdot SiO_2$), tricalcium aluminate ($CaO_3 \cdot Al_2O_3$), and

between 1 and 10% by weight, preferably 5% by weight, of gypsum ($CaSO_4 \cdot 2\ H_2O$).

5. A pasty, biocompatible material according to any preceding claim, characterized in that mineral trioxide aggregate (MTA) contains a radio-opacity enhancing substance, in particular bismuth(III) oxide (Bi_2O_3).

6. A pasty, biocompatible material according to Claim 5, characterized in that mineral trioxide aggregate (MTA) contains between 0.1 and 30% by weight, preferably 20% by weight, of bismuth(III) oxide (Bi_2O_3).

7. A pasty, biocompatible material according to any preceding claim, characterized in that the dimensionally stable molded part (7) is formed after injection of a periosteum covering the planar lesion not determined by surrounding bone material after hardening of pasty, biocompatible material.

8. A pasty, biocompatible material for supporting the formation of new bone material and/or for bone augmentation in a mammalian bone by forming a molded part after hardening, in which the pasty biocompatible material consists of or comprises

between 50% by weight and 70% by weight, preferably 65% by weight, of a calcium-containing base material,

between 15 % by weight and 40 % by weight preferably 20 % by weight of mineral trioxide aggregate (MTA),

between 15 % by weight and 25 % by weight of at least one antibiotic, and

between 0.1 % by weight and 1.0 % by weight of a liquid, preferably demineralized water or sodium chloride solution (NaCl)

in which

the calcium-containing base material is selected from the group consisting of: aragonite, mussel shell, shell lime, allogenic bone material, autogenic bone material, xenogenic bone material, FDBA (freeze-dried bone allografts), DFBA (decalcified freeze-dried bone allografts), algae or algae extract, ceramic, calcium phosphate, in particular tricalcium phosphate or tetracalcium phosphate, x- or β-tricalcium phosphate, hydroxylapatite, calcium phosphate ceramic, bioglass, aragonite-based bone replacement material (e.g. BioCoral ®) or mixtures thereof,

the mineral trioxide aggregate (MTA) comprises or consists of tricalcium silicate ($CaO_3 \cdot SiO_2$), dicalcium silicate ($CaO_2 \cdot SiO_2$), tricalcium aluminate ($CaO_3 \cdot Al_2O_3$) and gypsum ($CaSO_4 \cdot 2\ H_2O$), and

the antibiotic is selected from the group consisting of penicillin, amoxicillin, clindamycin, metronidazole, erythromycin, tetracycline, doxycycline, ciprofloxacin, levofloxacin, azithromycin, minocycline, lincomycin, gentamicin, vancomycin, moxifloxacin, rifampicin, sulfamethoxazole/trimethoprim, amikacin, ceftazidime, ceftriaxone, imipenem, meropenem, ampicillin, chloramphenicol, nystatin, ketoconazole, fluconazole or voriconazole or mixtures thereof.

9. A composition for producing a pasty biocompatible material according to any preceding claim, for use in a planar lesion (1) not determined by surrounding bone material on a bone base (3) or on a bone, in particular in a jawbone, comprising or consisting of

a calcium-containing structure-providing base material,

mineral trioxide aggregate (MTA), and

at least one antibiotic,

in which

the calcium-containing structure-providing base material is selected from the group consisting of aragonite, mussel shell, shell lime, allogenic bone material, autogenic bone material, xenogenic bone material, FDBA (freeze-dried bone allografts), DFBA (decalcified freeze-dried bone allografts) algae or algae extract, ceramic, calcium phosphate, in particular tricalcium phosphate or tetracalcium phosphate, X- or β-tricalcium phosphate, hydroxylapatite, calcium phosphate ceramic, bioglass, aragonite-based bone graft substitute (e.g. BioCoral ®) or mixtures thereof,

the mineral trioxide aggregate (MTA) comprises or consists of tricalcium silicate ($CaO_3 \cdot SiO_2$), dicalcium silicate ($CaO_2 \cdot SiO_2$), tricalcium aluminate ($CaO_3 \cdot Al_2O_3$) and gypsum ($CaSO_4 \cdot 2\ H_2O$), and

the at least one antibiotic is selected from the group consisting of penicillin, amoxicillin, clindamycin, metronidazole, erythromycin, tetracycline, doxycycline, ciprofloxacin, levofloxacin, azithromycin, minocycline, lincomycin, gentamicin, vancomycin, moxifloxacin, rifampicin, sulfamethoxazole/trimethoprim, amikacin, ceftazidime, ceftriaxone, imipenem, meropenem, ampicillin, chloramphenicol, nystatin, ketoconazole, fluconazole or voriconazole, or mixtures thereof.

10. A composition according to Claim 9, characterized in that the composition comprises or consists of

between 50% by weight and 70% by weight, preferably 65% by weight of the calcium-containing base material,

between 15% by weight and and 40% by weight, preferably 20% by weight of the mineral trioxide aggregate (MTA), and

between 15% by weight and 25% by weight of the at least one antibiotic.

11. A composition according to Claim 9 or 10, characterized in that mineral trioxide aggregate (MTA) contains a radio-opacity enhancing substance, in particular bismuth (III) oxide (Bi_2O_3).

12. A composition according to Claim 11, characterized in that mineral trioxide aggregate (MTA) contains between 0.1 and 30 % by weight preferably 20 % by weight of bismuth(III) oxide (Bi_2O_3).

13. A composition according to any of Claims 9 to 12, characterized in that the mineral trioxide aggregate (MTA) is provided in the form of a powder or as a granular material.

14. A composition according to any of Claims 9 to 13, characterized in that the mineral trioxide aggregate (MTA) is provided in the form of a powder or as a granular material.

15. A composition according to any of Claims 9 to 14, characterized in that the mineral trioxide aggregate (MTA) is homogeneously distributed in the base material.

16. A biocompatible molded parts (7) for use in a method of supporting new bone formation, in particular for the bone augmentation of an existing bone structure, characterized in that the biocompatible molded part (7) is formed after filling a planar lesion, not determined by surrounding bone material, on a bone base (3) or on a bone, in particular in a jawbone, from a pasty material according to any of Claims 1 to 8 and consists of a calcium-containing, structure-providing base material, mineral trioxide aggregate (MTA) and at least one antibiotic.

17. A biocompatible molded part according to Claim 16, characterized in that the molded part (7) contains

between 50% by weight and 70% by weight, preferably 65% by weight of the calcium-containing base material,

between 15% by weight and 40% by weight, preferably 20% by weight of the mineral trioxide aggregate (MTA), and

between 15% by weight and 25% by weight of the at least one antibiotic.

18. A biocompatible molded part according to Claim 16 or 17, characterized in that the molded part (7) contains at least one further substance, in particular in which the at least one further substance is selected from the group consisting of statin, vitamin, trace element, hyaluronic acid, hyaluronic acid derivative, collagen and/or mixtures thereof, in which the at least one further substance preferably has a portion of between 0.1 - 3 % by weight in particular between 0.2 - 1.5 % by weight preferably 0.25 % by weight of the molded part.

19. A biocompatible molded part according to Claim 16, 17 or 18, characterized in that the molded part (7), when used in a method of supporting new bone formation, in particular in a jawbone, provides a basic structure for the new bone formation , in particular for the bone augmentation of an existing bone structure, and the base material and the antibiotic are completely resorbed in the course of the new bone formation and the mineral trioxide aggregate (MTA) remains in the newly formed bone.

20. A biocompatible molded part according to Claim 19, characterized in that the molded part (7) is formed *in situ* in a planar lesion, not determined by surrounding bone material, on a bone base (3) or on a bone, from a hardened, pasty material.

21. A biocompatible molded part according to Claim 20, characterized in that the molded part (7) is formed after injection under a periosteum (8) covering the planar lesions not determined by surrounding bone material.

22. A mineral trioxide aggregate (MTA) for use in the treatment of bone deficits, in particular in the treatment of periodontal disease in a biocompatible molded part (7) formed from a pasty material according to any of Claims 1 to 8.

23. A mineral trioxide aggregate (MTA) for use in the treatment of bone deficits, in particular in the treatment of periodontal disease in a biocompatible molded part (7) formed from a pasty material according to any of Claims 1 to 8, in which the filling of a planar lesion not determined by surrounding bone material on a bone base (3) or on a bone, in particular in a jawbone, is provided.